

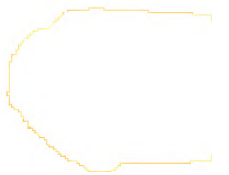
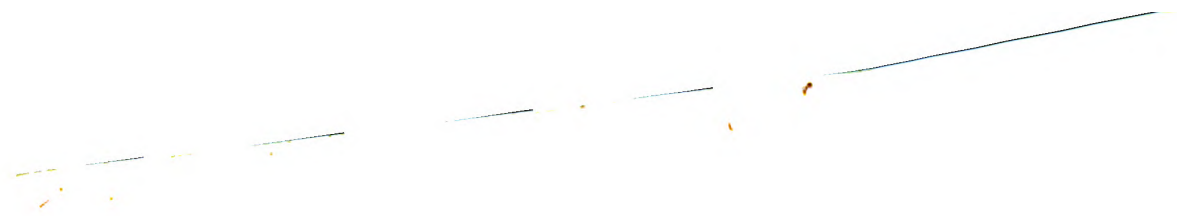
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HUGH A. MACCORMACK, Hon. Sec.

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Next Session commences on Wednesday, 27th Sep. 1911

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1199.

JULY 1, 1911.

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THE LIMITS OF DIAGNOSIS.

Recently Mr. Wallis Hoare has revived the discussion of this question, which, though an old one, will well bear repetition from time to time. It is a subject regarding which the education of the profession is yet far from complete, and that of the public has hardly been more than begun.

There was a time when the majority of practitioners habitually over-estimated the clinician's powers of accurate diagnosis. Thanks partially to the labours of pathologists, and perhaps even more to the persistent teaching and recorded experience of a few open-minded clinicians, we can safely say that, as a profession, we appreciate the limitations of our diagnostic powers much more clearly than did our forefathers.

Most practitioners nowadays will be in substantial agreement with Mr. Hoare in the many instances he cites of the difficulty, and frequent impossibility of diagnosis of cases, many of which are among the commonest met with in practice, and the unreliability of not a few of the symptoms once regarded as diagnostic. In one sense our advances in clinical medical and surgical diagnosis during recent decades have been disheartening, for they have very largely consisted in the recognition of errors; but, nevertheless, one great general advance has been made. It is true that in very many cases a skilled clinician of the type of Mr. Hoare is little more likely to reach an accurate diagnosis than the practitioner of thirty years ago: but he is certainly far less likely to confidently arrive at and act upon a wrong one.

There are still a few practitioners who retain unbounded faith in their individual diagnostic powers, but their number is decreasing. There are a larger number, unfortunately, who have not yet emancipated themselves from observance of the popular tradition requiring a clear immediate diagnosis from every veterinary surgeon, and here the difficulty comes in. So long as the public requirements in this respect remain as at present, every practitioner—especially if not yet firmly established—is daily placed under a strong temptation to fall in with them, and very few men fully resist it. This much should be remembered—that the public, who were taught to expect infallibility in diagnosis by generations of doctors and veterinary surgeons in the past, will retain the same expectations until slowly taught otherwise by practitioners of the present and future. A great deal at least of the difficulties between the medical and veterinary professions and the public have been made, and can only be removed, by the professions themselves.

A CASE OF EQUINE TUBERCULOSIS.

The subject, a brown cart gelding, No. 1015, was purchased May, 1909, and was then five years old. Previous to this the horse worked on the farm where bred. The horse was worked in our department collecting refuse from house to house. On November 10th, 1910, the stableman reported that the horse was off his feed and blowing badly. This was the first time he was noticed ill since being purchased. On examining the horse his respirations were 30 per minute, temperature 102 F., and pulse 50, I was unable to detect any definite symptoms of pleurisy or pneumonia, and I entered the case up as a slight feverish cold.

I had the horse placed in a loose box and gave $\frac{1}{2}$ lb. Mag. sulph. and a fever drench consisting of Spts. æth. nit. and Liq. ammon. acet. The drench to be repeated morning and night. Linseed and bran mash, and a little long hay were given instead of the ordinary corn ration. After two days the temperature was 101 F., but the pulse and respirations were unchanged. The least exertion on the part of the horse, such as getting up from the recumbent position, increased the respirations for a short time.

The horse had been in the stable for four weeks and the symptoms were so irregular, and nothing definite detected as to the cause, it was decided to test him with tuberculin.

On December 22nd I injected into the near side of the neck 3 c.c. of tuberculin, the site of injection not being previously prepared in any way, no antiseptic precautions being taken with regard to the skin. Twenty-four hours after injection there was a large sharply defined local reaction which later increased in area, especially as its most dependent point. The local swelling measured eleven inches by five inches. Following the injection the temperature was taken every two hours up to the 36th hour, when the temperature has again fallen to 102 F., the maximum temperature being 105.6 F. Chart No. 1 shows the change in temperature following the injection of the tuberculin.

The local reaction was so large and so unexpected that I suspected it was due to some local injection and not to the tuberculin, in fact I attributed the local reaction to want of precaution on my part in not properly cleaning and disinfecting the skin prior to and at the site of injection. The local swelling gradually decreased in area and depth and disappeared about the fifth day after.

At the usual half-yearly weighing of horses in July, 1910, this horse weighed 17 cwt., and as he now appeared to lose flesh daily I had him again

weighed on January 3rd, 1911, and he turned the scale at 12 cwt. 1 qr.

On January 9th I again injected the horse with tuberculin. This time I shaved a spot about four inches square on the middle of the neck on the off side, I had the part then washed with soap and water, dried with cotton wool soaked in ether, and following this the part was further antiseptized with Tinct. iod. The hypodermic syringe was boiled before use, and the tuberculin injected subcutaneously in the centre of the disinfected spot. The temperature was taken after injection at intervals of two hours up to 64th hour.

Chart No. 2 shows the change in temperature following the 2nd injection. Ten hours after injection a local swelling appeared at the site of injection and continued to increase up to the 24th hour when it gained its maximum size, then measuring 11 inches long by seven inches across, and its depth I should judge to be about one and a half inches.

On January 11th, 1911, the horse weighed 12 cwt. 14lbs. On January 17th his weight was 11 cwt. 3 qrs. 21lbs, and on January 24th 11 cwt. 3 qrs. 7lbs.

As we now had no doubt about this horse being affected with tuberculosis, and as he continued to lose weight daily, it was decided to have him destroyed.

Post-mortem Examination. The heart, liver, bowels, and kidneys appeared normal. The spleen was covered with tuberculosis nodules. The accompanying photograph No. 1 gives one only a hazy idea how badly it was affected. The lungs were enormously enlarged, and when the thorax was open they appeared to completely fill it. They appeared exactly like lungs which are artificially inflated outside the body. The pleura, both on the chest walls and lungs, was smooth and glistening. I had the heart and greater part of the trachea detached from the lungs, and the latter weighed. They weighed 77lb. While at the slaughterhouse I had three sets of cart horses lungs weighed, and they averaged 19lb each, therefore I conclude the lungs from this horse must have increased at least 55 to 58lb above their normal weight. On further examination of the lungs I found the mediastinal lymphatic glands apparently normal and showing no signs whatever to the naked eye of being affected. The lungs were of a cream colour with red streaks at intervals through them, and on palpation felt hepatized. The cream-coloured material in the lungs was of a waxy consistency. On section the lungs appeared more or less completely filled with this cream-coloured material, in fact there was a very small amount of real lung tissue remaining. Microscopic examination of the lungs showed giant cells and tubercle bacilli. Micro-photographs No. 2 and No. 3 show high and low power microscopic appearance of cross section of the lungs.

BRENNAN DEVINE.

Veterinary Department, Birmingham.

UNUSUAL CASE OF ANTHRAX IN A MARE.

The following case presents some rather uncommon features, and I hope it may prove of interest to your many readers.

On Saturday afternoon, June 17th, I was requested to see a four-year-old breedy harness mare, the property of Mr. John Forth, of Brown Hill, Burnley. The mare was in a loose box, and was only noticed to be off her feed in the morning, but as she made no improvement as the day went on my services were requisitioned about 4 p.m.

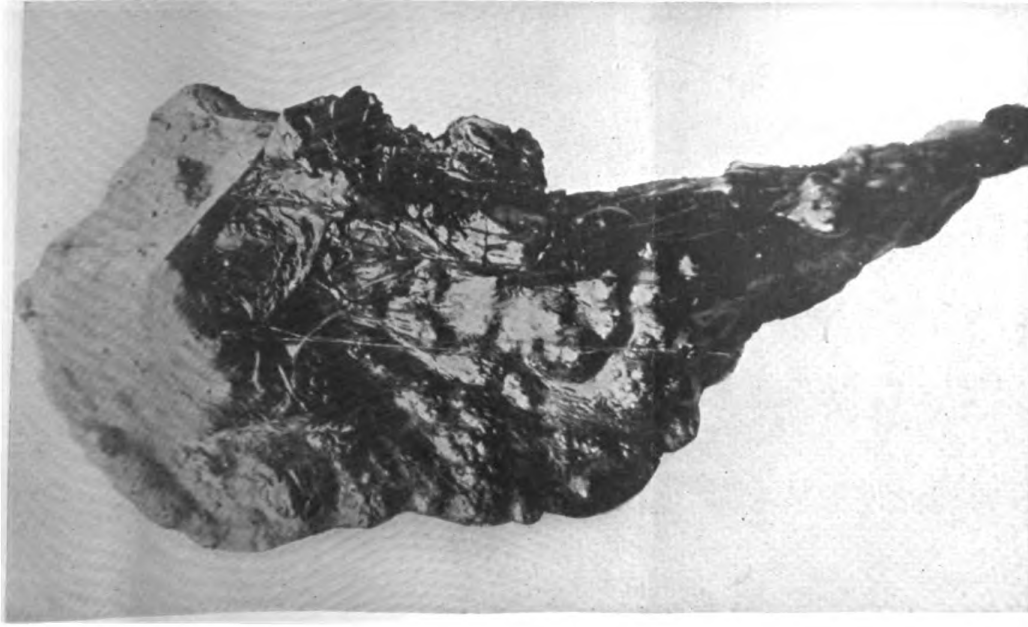
I found the mare dull and dejected, with a slight nasal discharge, breathing slightly disturbed, pulse 96, temperature 104 3-5th. Auscultated chest but could discover no abnormal sounds, percussion caused no inconvenience; extremities normal heat, and had every appearance of an every-day case of hyperpyrexia. A fever draught was administered and a few fever powders left. I told my client I would call again in the morning.

Sunday, about 9 o'clock, I found a marked change for the worse. Breathing was laboured, dull and dejected, cold ears and extremities. Injected conjunctiva, pulse imperceptible, temperature dropped to 102, refused all food and water. I administered a stimulating ball, and upon raising the head to administer a draught she dropped like a log and had some difficulty in regaining her feet. I applied mustard to chest and rubbed it well in myself, but to my astonishment she showed no feeling whatever. I had her head brought to the box door and secured there, and had her legs bandaged.

I informed my client it was a case that presented some rather unusual features of a grave nature, and was certainly somewhat puzzling. I dare not attempt to drench again, but promised to look in later, about noon, to administer another stimulating ball but I had not the opportunity, as the groom called about 12 o'clock noon to say the mare was dead.

I remarked it was an uncommonly interesting case, and made arrangements to have a post-mortem examination, which took place about 1.30 in the afternoon.

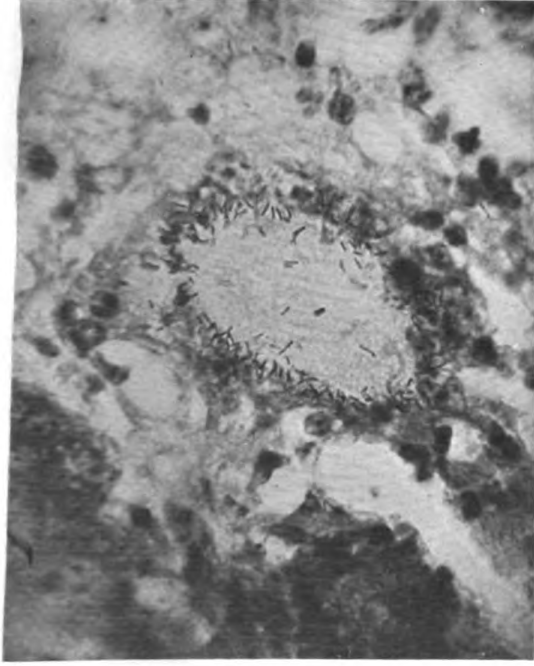
Upon opening the abdominal cavity there escaped a great quantity of straw-coloured fluid, and upon removing the viscera my eye caught a globular looking body which proved to be an ovary, ruptured, showing a large black clot of blood; upon the longitudinal muscular band of the great or double colon there was a quantity of gelatinified serum. My suspicions were at once aroused that I had a case of anthrax to deal with. I then came to the spleen, which was very much swollen and enlarged, weighing 9½ lbs. I immediately gave orders to proceed no further with the autopsy, and to leave the carcass where it was until further instructions. I collected some blood and made the usual smear, stained with methylene blue and examined with a microscope, and had no difficulty in finding swarms of anthrax bacilli.



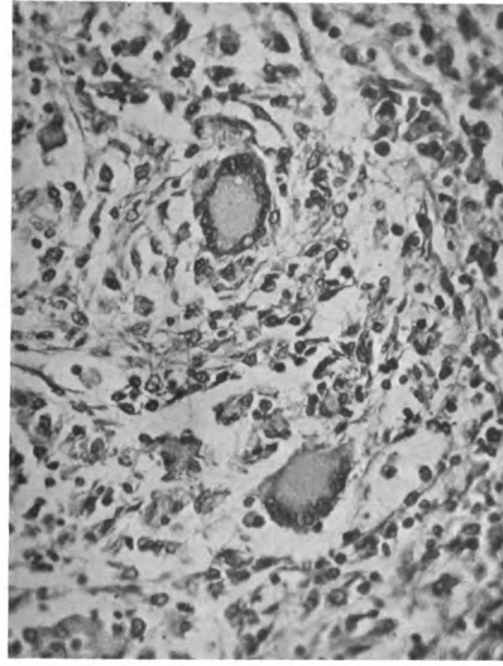
SPLEEN.

EQUINE TUBERCULOSIS.

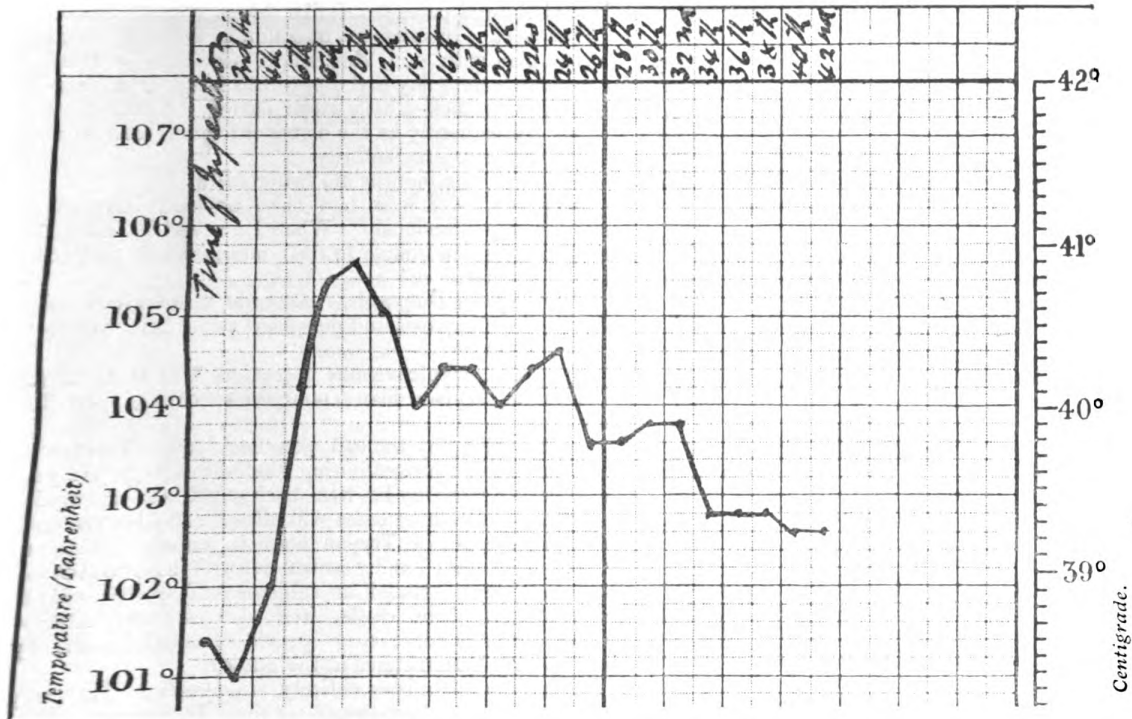
Note by Mr. Brennan De Vine, F.R.C.V.S.



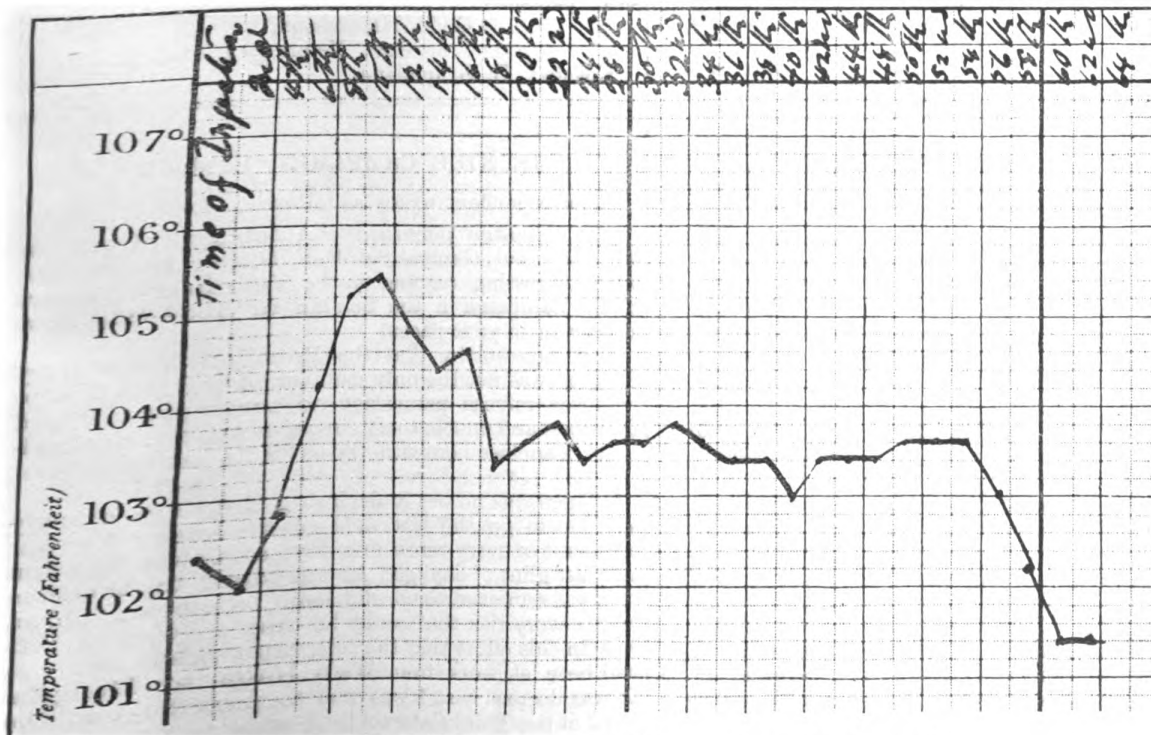
2. Cross section of lung. High magnification.



3. Cross section of lung. Low magnification.



Tuberculosis. Brown Gelding, No. 1015. Chart I.



Tuberculosis. Brown Gelding. No. 1015. Chart II.

I at once acquainted the police, and as the case was in the Borough the Corporation veterinary surgeon took it in hand.

The history of the mare is as follows:—She was bred by the owner, and only brought up from grass two months ago, put into the breaker's hands, and had only been working three weeks when taken ill. Upon enquiry as to her food, and whether she has had any foreign hay etc. I was informed she had not, and so the case remains a mystery as to its origin.

The foregoing case only goes to prove, in my opinion, the importance of following up fatal cases that prove perplexing to the practitioner, and I am firmly convinced there are many such cases that escape observation and never come to light. I think it is over twenty years since I had a case of anthrax in the equine species, and never to my knowledge have I ever before seen one prior to death.

JOSEPH H. CARTER, F.R.C.V.S., F.R.S.E.

Burnley.

THE RESULTS OBTAINED BY THE INTRAVENOUS INJECTION OF TRYPAN BLAU IN THE PLASMOSIS OF DOMESTICATED ANIMALS WITH ESPECIAL REFERENE TO GALL SICKNESS.

In *The Veterinary News* of May 6th Government Veterinary Bacteriologist Bevan, Southern Rhodesia, mentions in his report for the year ending December 31st, 1910, that Trypan blau has no curative action on the disease known as "Gall-sickness" due to the presence of "*Anaplasma marginale*" and "*Piroplasma mutans*." This is not, however, my experience, as the following cases indicate:—

Case I. Red heifer, one and half years old.

Symptoms. Off feed, temp. 105 F., salivating freely, tucked up, staring coat, constipation and lachrymation; membranes tinged with yellow; nervousness, brain trouble, indicated by a glassy fixed stare of eyes, and moaning fiercely when handled; pulse quick, small, and aggravated.

Microscopical Diagnosis. Examination of the blood revealed when stained by Giemsa the presence of *Anaplasma marginale* with an occasional specimen of the *Piroplasma mutans* and *Anaplasma centrale*, Poikilocytosis, and Basophilia.

Treatment. Injected 200 c.c. of a 2% solution of Trypan blau intravenously; also administered 3ss. Calomel, followed by 3viii. Mag. sulph.

The following day there was no apparent difference in the general appearance, save that the membranes and skin were deeply tinged with blue, and the heifer had begun to eat a little. Temp. 105.

The next day she appeared a little brighter; temp. 104. I administered 3ss. doses of Quinæ sulph. twice daily. Microscopical examination of the blood stained with Eosin-Azur. revealed only a few anaplasms. The heifer subsequently did well.

Case II. Black and white two-year-old heifer.

Symptoms. Resembling Case I. in every way. Temp. 104.2.

Microscopical diagnosis. Stained by Eosin-Azur showed parasites similar to previous case.

Treatment. Intravenous injection of 200 c.c. 2% Trypan blau with 3viii. Mag. sulph. per orem. The temperature next day had dropped to 104, and she had begun to pick a little green barley. I did not see her subsequently as the owner informed me she was doing quite satisfactorily.

Case III. Six months old heifer calf.

Symptoms. Off feed, had been noticed unwell for three days previously. When I arrived I found her prostrate and unable to rise; membranes pallid and temp. 103.

Microscopical Diagnosis. Anæmic condition of blood; Poikilocytosis and *piroplasma mutans* strikingly evident.

Treatment. Intravenous injection 100 c.c. 2% solution of Trypan blau; nourishing diet, gruel, milk, etc.

On the third day the calf was decidedly better, and gradually improved during the following days until on the fifth day he was discharged as cured.

I think these three cases will afford ample proof of the usefulness of Trypan blau in cases where "marginal points" and "central points" are microscopically demonstrated in subjects affected with "gall sickness" in cattle, and also when *Piroplasma mutans* supervenes—provided a sufficiently large dose is administered at the outset.

Trypan blau has been entirely successful in my hands in all the plasmoses other than *P. parvum* of domesticated animals, viz., *piroplasma canis*, *piroplasma equi*, and the previously described "gall-sick" parasites.

G. T. HENDERSON,

Govt. Veterinary Surgeon.

Kokstad, E. Griqualand.

THE NILE CAMPAIGN, 1884-85.

A correspondent writes as follows;

The recently published "Autobiography" of the late Lieut.-General Sir W. F. Butler bears in a very interesting manner on the Veterinary Report of the Campaign in the Soudan in 1884-85, now appearing in your pages.

It is noteworthy that the Principal Veterinary Surgeon was not the only member of the Staff who who was refused permission to accompany Head Quarters, and unable to obtain access to the authorities. I enclose herewith the extracts in question:

* * * *

"There was no use in deploring the time already lost, but to get the last mile of distance for our boats out of every remaining day, and save the first and last glint of daylight for our work in the time that yet remained to us, did seem to me an object worth every risk that could be run to win it. It was in this effort that the telegraph beat me. It had been at work from Wady Halfa to Dongola. It was decreed that I was not to pass beyond the head of the Third Cataract! I was not to see the Commander-in-Chief! I must go back to Dal! What I wrote that afternoon in my boat in the

middle of the Nile, somewhere in the broad water below the Isle of Argo, I could not now recall, but I remember that my pencil flew over the blank backs of some nine or ten large Egyptian telegraph forms, as no pen or pencil of mine ever went before or since. I handed the packet of tissue sheets to the messenger to give to Lord Wolsey in Dongola and then turned down stream with, I think, the heaviest heart and saddest brain I had ever known in my life."

* * * *

"When I reached Korti on 4th January, the advanced portion of the Desert Column had already left that place for Gakdul, a watering place half-way on the road to Metemmeh, but the number of camels to mount and carry supplies, even for a force of 2000 fighting men, was totally insufficient, and it was necessary to unload the camels at Gakdul, form a depot there, and bring the animals back again to Korti for another load of supplies. Thus the leading portion of the force left Korti on the 30th December, arrived at Gakdul after a forced march on the morning of the 2nd January, started again for Korti on the same evening, and reached that place at noon on 5th January, having covered a total distance of 196 miles in 5 days and 21 hours. This march sealed the fate of the Desert Column. The camel is a much enduring beast of burden, but 196 miles in 141 consecutive hours was more than even he could bear. It was pitiable to see these poor beasts dragging themselves to the river on the 5th, 6th, and 7th, many of them falling dead at the water's edge as they tried to drink. The main body of the Desert Column finally left Korti on 8th January, reached Gakdul on the morning of 12th, and at 2 p.m. on the 14th January started on the remaining 90 miles to Metemmeh. The camels were now completely done."

* * * *

"The march from Meroë to Dongola, 200 miles, in end of May and early June, was the hottest day that had ever fallen to my lot. I had to pick up at each summer station in succession—Korti, Tani, Kurot, Abu Gus, and Handak—the horses, guns, camels, and transport of the whole force, all the remnants of the Desert Column that could not be put into our old boats. I can never forget the last day's march from Handak to Dongola. A desert blizzard blew straight in our faces, hot, strong, and bitterly biting with the grit sand and small stones that it hurled in our teeth. Camels and horses often turned aside unable to face it. We had orders to leave the camels behind us. The wretched animals that had been in the Desert Column were spectres, mere bones and sores. As they fell they had to be shot by the rearguard."

Two-thirds of the camels collected at Tani and Kurot thus perished. I had taken the precaution of feeding up my camels at Meroë for weeks before the move, giving them the large stores of grain laid in in anticipation of the autumn campaign, and ordered to be destroyed on evacuation, and although the camels had a double distance to travel to reach Dongola, I lost only one or two on the march down. But the strangest part of the proceeding

was that the General Officer in command of the force thought fit to report me to the Commander-in-Chief for not having obeyed the orders to destroy the grain by fire. Called on for an explanation, I replied that although I had departed from the letter I had still observed the spirit of the order, inasmuch as I had used the grain as extra fuel to keep the ebbing fire of life in my unfortunate camels, and while expressing regret at even the seeming departure from the letter of the regulation, I added that my penitential feelings were somewhat mitigated and consoled by the reflection that while the camels of the censorious Commander had lost some 80 per cent. of their numbers on the short march, mine on the longer route had not lost above two per cent."

ABSTRACTS FROM FOREIGN JOURNALS.

ADRENALIN IN PURPURA HÆMORRHAGICA.

Prof. Schlampp, reviewing the various methods of treatment adopted for purpura hæmorrhagica, concludes that in view of the conflicting reports of the use of the various and somewhat costly sera, and the general disappointment that has followed the employment of drugs supposed to possess a "specific" action—such as iodine and the silver compounds—reliance should be chiefly placed upon a purely symptomatic treatment.

As the most marked clinical symptoms in purpura hæmorrhagica proceed from alterations in the medium-sized and small bloodvessels, the increased permeability of whose walls cause extravasations into the soft tissues, Schlampp holds it important to prevent, or at least to limit, this tendency to extravasation. This can only be accomplished therapeutically by drugs which cause powerful and enduring contraction of the lumen of the vessels. Schlampp is not convinced that the two old vasoconstricting drugs, hydrastis and ergot, are beneficial in this direction in purpura hæmorrhagica, and suggests adrenalin in preference.

The earliest, and so far as Schlampp is aware the only, employment of adrenalin in purpura hæmorrhagica was in 1906, when Payron tried it, giving doses twice daily by the mouth. Since then, Schlampp thinks, this method of treatment has been forgotten; but during the past year he has treated some cases of the disease—some of them being of medium severity, and some very serious—with adrenalin. He now describes his method and its results.

The only adrenal preparation Schlampp used was the *Solutio adrenalini hydrochlorici* Takamine, 1 c.c. of which represents one milligramme of adrenaline. Schlampp used 2 c.c. to 4 c.c. of this solution diluting it with sterilised water up to 10 c.c., and injecting this dose subcutaneously. He repeated this injection every second day, and as a rule four or five injections were necessary.

Disturbances of the general condition, or undesirable results at the site of the injection, were never

observed. The first results of the injections which appeared were of a somewhat surprising nature. The temperatures of horses which registered from 104 F. to 105 F. when injected, sank to complete apyrexia within 12 to 18 hours after the injection; and this striking event was repeated regularly and without exception in every feverish horse that was injected. The afebrile condition lasted for different periods of time, but was never shorter than two days; and in cases when a febrile temperature recurred, the next injection again caused prompt remission. The method by which this reduction of temperature is effected does not seem quite clear. Schlampff suggests as a possible explanation that the effect of the adrenalin upon the circulation may influence tissue change and heat production. In every case the attainment of apyrexia may be regarded as a good sign; seeing that as a rule in purpura hæmorrhagica the earlier a high temperature appears, and the higher it ascends, the more serious is the case.

The effect of the adrenalin upon the œdematous swellings and the ecchymoses of the mucous membrane was also a favourable one. Fading of the petechiæ was first observed, and this took place fairly quickly. Swellings, which, when treatment was commenced, were already present in the cutaneous or subcutaneous tissue retrogressed rather more slowly, but vanished within three to five days, perhaps leaving a mere trace of their pre-existence at the end of that time. Schlampff thinks it doubtful

whether a quicker resorption of the swellings than this is really desirable. In untreated cases of the disease, at least, the often-seen spontaneous sudden disappearance of the swellings is not a good sign.

Though in not a few of Schlampff's cases, the swellings at the commencement were very extensive, tense, and painful, yet the much-feared processes of mortification completely failed to appear. Now and then, during the period of the injections, new œdematous swellings appeared; but these did not assume formidable proportions, and soon disappeared again.

Schlampff gives no notes of any single case, and does not say how many cases he has treated or if any have been unsuccessful; but simply remarks that the number of his favourable cases is far too few to permit a definite judgment of the value of the treatment. He fully commends it, however, for more extensive trial by the profession. Should it prove satisfactory, it remains to be proved whether other adrenal preparations, as paraneprhrin, epinephrin, etc., will be found as useful as adrenalin; and it is also possible that, with regard to adrenalin itself, the dosage may be found capable of improvement. Schlampff himself is satisfied that adrenalin is without danger in the doses he has employed; but is evidently inclined to suspect that so far his dosage has erred on the side of prudence, and that further experience may justify an increase of dose in all cases.—(*Münchener Tier. Woch.*)

W. R. C.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Parasitic Mange (outbreaks)	Sheep Scab.		Swine Fever.	
	Out-breaks	Animals	Out-breaks	Animals	Out-breaks	Animals		Out-breaks	Animals	Out-breaks	Slaughtered.
IRELAND. Week ended June 10	...	...	...	...	...	...	1	...	...	1	79
Corresponding Week in	1910	...	...	...	...	...	2	3	3	3	84
	1909	...	...	...	...	...	1	1	3	43	
	1908	...	...	...	...	...	1	1	2	133	
Total for 23 weeks, 1911	5	6	...	...	2	3	41	240	52	910	
Corresponding period in	1910	4	7	...	1	2	36	332	52	1239	
	1909	3	3	...	...	...	46	278	37	606	
	1908	4	7	...	...	...	21	263	97	1956	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 19, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

NILE EXPEDITION 1884-5.

(Continued from p. 806.)

Report by Veterinary Surgeon E. E. BENNETT, on Camels and their diseases during the Nile Expedition.

The Land Transport, almost wholly performed by camels, the fighting force (the Camel Corps) were also mounted on these animals—a portion of one cavalry regiment was employed in addition; mules and donkeys were used at some of the cataracts for the portage of stores.

Remounts.—The purchases of camels were chiefly made north of Assouan and south of Cairo. No Delta animals to be bought, as it was said they could not stand the climate of the Soudan. How far this may be true I am not prepared to state, not having been there during height of summer. Combatant Officers were mainly employed for this duty, some of whom were evidently of doubtful experience, as was proved by the large number of very young camels which came into the depots. At Assouan, owing to a report sent in by me on this point, a board was called, and it was found that at the time there were 95 camels three years old and under, 45 four

years old and under; and many other four year olds, although so young, were considered by the board as fit for issue, being fairly well-developed, which is more than could be said for the remainder. The mistake arose probably from the inability of the purchaser to distinguish between permanent and temporary incisor teeth; but the infantile appearance of the three year olds should have been sufficient evidence to decide their rejection; animals of this kind are only a useless encumbrance and profitless investment. Further, on the march to Gakdul from Korti, one-third of the camels which died or fell out *en route*, were remounts issued at Korti in exchange for animals worn out with the length of the march up country. This heavy casualty list among the remounts was in great measure due to their extreme youth, and their consequent inability to perform the most ordinary work.

There are many varieties and breeds of camels. For war purposes, however, they were divided into two sections only, viz., the riding or trotting camel, and the baggage or non-trotting; the former employed for mounting the fighting force, the latter for transport, including Royal Artillery, Field Hospital and Bearer Companies. I will briefly allude to the different varieties which came under my immediate notice.

The Aden camel. Some few hundred were shipped from Aden to Kosseir (on Red Sea), and from thence marched *via* Kenah to Assouan (237 miles). They are light, clean-bred animals, chiefly used by us for riding purposes, although in their own country mainly employed for transport. They are of a uniform colour—dun—with short, fine coats, rendering them less liable to parasitic skin affections, and even when once attacked are treated in consequence with greater chance of success. This point can hardly be too highly esteemed, where a large number of animals are congregated together. They are quick-stepping, and from my experience of them will endure fatigue better, and subsist on less food than the Egyptian camel brought up in a cultivated district. They are unsuited to a cold climate, but are said to be good at hill work.

The Bishareen—bred by the tribe of the same name, are mainly of the riding class, and unsuited to carry heavy loads; they are generally of a whitish colour. Being desert camels, it is claimed for them that they can withstand the privation of thirst, without harm, for several days. Many of this class were purchased, and succumbed under the pressure of work imposed upon them.

The Kabbabish take their name from their breeders; they are found in and around the Bayuda Desert, and were principally hired when our own transport failed. They are larger and stronger than the Bishareen, are accustomed to feed largely on grain, but live by feeding on the mimosa tree and the coarse desert grasses. They are, in consequence, very valuable where corn is not procurable; but time (which we could ill afford) is necessary to admit of the grazing system being carried out.

The Ghizeh—bred in the district of that name, which is in neighbourhood of Cairo, near the Great Pyramids. Being half Desert and half Delta animals they are large and very powerful, well suited for all transport purposes. They are much esteemed by the Arabs, and command a higher price in the market than the pure Delta.

The Delta, almost wholly burden camels, powerful and slow-paced. Being bred in cultivated districts, they are unable to withstand the want of water for any period without suffering commensurably; several found their way into the service of the Expedition, although their purchase was prohibited.

The Assiout camel, not a special breed, but a mixture apparently between the Ghizeh and Delta was, in my opinion, the most valuable animal for transport purposes employed in the Expedition.

Age of Remounts.—A camel may be said to be in its prime between 7 and 12 years old. The endeavour should be to purchase about this age, and although from paucity of animals one may be obliged to take those which are younger or older, none should be bought without at least showing four permanent incisors ($5\frac{1}{2}$ years), and preference should be given to those over 12 years rather than those under $5\frac{1}{2}$. A full-mouthed camel possesses six incisor teeth in the lower jaws, and two sets of tushes (two on either side), one set being secondary or rudimentary. In the upper jaw three sets of tushes (three on either side), one primary, and two secondary or rudimentary sets, situate one on each side of the large or primary tush. Molars twenty-four, six on each side of each jaw. It is unnecessary to again allude to the numbers of young camels which were purchased for the Expedition.

Size.—Well-proportioned, medium-sized, compact, short-legged animals are the most serviceable. A considerable experience (a good "eye") is indispensable in the purchase of camels, as in all other animals.

Other points.—Pay attention to the eyesight, as old camels frequently suffer from partial or total blindness. The girth to be deep, the elbows to be set out, well away from side of chest to prevent chafing—a most detrimental and incurable defect; the horny prominence of elbow to be of medium size. The boss to be sound, free from wounds and morbid growths, and well developed. The flexor tendons to be fine and regular in contour throughout their length, as trotting camels are liable to strain and thickening of these tendons from severe and long-continued work. The pad of foot to be well developed, hard and sound, and free from fissures. The toe nails (often a cause of lameness) to be of normal growth. The hump to be of moderate size. This, however, much depends upon the breed of the animal. In the Aden and riding camel it is generally small, in the baggage camel large and covered with long and coarse hair. Allowing for this difference, it is a fair indication of the condition of the camel. It should be quite sound, as injuries and bruises of the hump are most intractable to deal with, from its low vitality and organisation. The back and loins to be well covered with flesh, and to be free from scars and sores. To be muscular about the quarters and thighs, and to be free from puffiness of the hock and other joints, to sit level when made to lie down, and to perform this latter motion, together with rising, without stiffness or difficulty. To be easily guided, well trained, and to walk and trot without impediment, and without crossing of the hind legs, which denotes weakness. There to be no indications whatever of any skin affection.

The price in Egypt varied between £9 and £15; as much as £20 to £25 must be given for the better class camel. When purchasing for the Egyptian Artillery in 1883, these amounts were reached in several instances. Female camels are usually rejected.

Diseases and Injuries.—Saddle galls formed the large majority of cases; at least 7-10ths were of this class, and were the cause of infinite trouble and annoyance; bony eminences being numerous in the camel, and being covered in most cases only by the skin, will in great measure account for the liability to rub and gall. Defective and ill-fitting saddles, heavy loads sustained for long periods, with long marches, considerably added to the list. It is no exaggeration to say that 8 per cent. of the camels purchased were suffering from saddle injuries at the time of their arrival at Assouan, and had to be admitted for treatment into the sick depot before being issued as serviceable. Some 3,000 animals passed through this station while I remained there, so that the sick lines were always well stocked with these cases. A convoy of Aden camels, which marched from Kosseir to Assouan, occupying 16 days *en route*, were only once off-

saddled, I was given to understand. This careless treatment cannot be too highly condemned, as many were placed *hor de combat* for several weeks in consequence. Animals in low condition suffered the most.

Method of treatment.—Exit to pus by depending orifice, removal of all dead and dying tissues, cleansing and syringing with carbolic lotion, and plugging the wound with pieces of tow dipped in the solution, to be removed daily until it assumed a healthy appearance. In indolent and foul sores, spirits of turpentine was applied to stimulate the healing process, and with beneficial results; the first action being achieved, it was diluted with oil, and continued with success. In other cases scraping the internal surface of the wound was found to act advantageously, in others setons were employed. Where the bone was injured, and the ends of the transverse processes of the dorsal vertebrae are especially liable to be so, recovery was greatly retarded, as much as from five to eight weeks being required before such cases could be discharged. Sacking for covering the wounds was found very useful in protecting them from flies and dust and other foreign matter. Every camel should be supplied with a saddle-cloth of sacking, which can be used for the above purpose, as well as being employed as a "roll" to protect the back from the pressure of the saddle, wherever liable to rub or gall.

Skin diseases fortunately did not exist to any great extent. I was always able to keep a certain control over them, which, considering the number of animals, was rather remarkable. I recognise two forms—contagious and non-contagious; and although, in the former, being unable to prove the existence of acari, still, from the difficulty experienced in eradicating the disease, I have not the slightest doubt but that they were present. The non-contagious is a comparatively simple disease, due probably to errors of diet and other influences working unfavourably upon the system.

Treatment of contagious form.—Isolation, clipping the hair if necessary, and cleansing with soap and water, and dressing afterwards with a solution of McDougall's dip; it being found that the watery solution evaporated quickly, besides inducing a dryness and chapping of the skin, "gee," native butter, was used instead as a diluent with more marked success, although the advantages of the McDougall compound, from its prepared condition, and the handy way in which it is packed, rendering its transport and employment more practicable and expeditious, are considerable. I cannot but think that the ordinary pharmaceutical preparation in general use for skin affections would have been more efficacious. Three and four dressings were often necessary; care should be taken that the animals do not get chilled after being dressed.

Debility, often associated with more or less severe diarrhoea, caused some trouble, chiefly noticed amongst the younger camels, and those which had marched long distances, *e.g.*, amongst a convoy which marched from Cairo to Assouan, a distance of about 600 miles in something under one month, which gives a daily average of more than 20 miles, there were several cases; these animals were expected to be fit for issue and work immediately after arrival. Treatment.—Rest, change of diet, and quiet exercise, with a covering at night. A condition would have been of great value, and should be supplied in quantity to depots for use in this particular condition. Grazing, if properly carried out, would prove very beneficial in these cases.

Catarrh, accompanied by laryngitis, was somewhat prevalent for a time, caused, no doubt, by the coldness of the nights, and the want of protection (coverings) from the wind. Only temporary inconvenience resulted from this ailment, however, as few animals succumbed; in a colder climate one might expect this disease to spread and to cause considerable havoc, the extensive

laryngeal and pharyngeal mucous surfaces in the camel rendering it particularly susceptible to throat and subsequent lung affections. Treatment.—The application, with friction, of a stimulating liniment to the throat, with soft food and covering at night; saddle-cloths, already noticed, would here prove of further advantage.

Pneumonia.—A few cases as a result of the above, and also from the presence of hydatids, which, in several post-mortems made, I found to be numerous.

Phthisis, in the acute form, was also met with; it exists, I believe, to an extent more than is generally supposed, for I have been given to understand that an annual death rate of 30 per cent. is allowed for, and reckoned upon, amongst the camels belonging to the Egyptian Government Domain lands, the chief causes of this heavy mortality being due to hydatids in the lungs and phthisis (M. Piot, Veterinary Surgeon to the Domain).

Wounds and injuries of all descriptions, including gun-shot wounds, were encountered, and subjected to ordinary methods of treatment. Here I may mention that particular attention should be paid to the "boss" in purchasing; for, if injured, a considerable period elapses before again becoming sound, as each time the animal lies down the wound is subjected to much pressure, which is harmful, as well as the liability to the entrance of foreign matters. Surface injuries quickly undergo repair in a dry climate like the Soudan.

Chafing of the elbow and side, either from the turning in of the point of the elbow, or over-development of the horny pad covering it, is often the cause of great annoyance, the more so, as it is practically incurable.

In one case of chafe which came under my notice, the abscess which formed in the seat of injury, penetrated and opened into the cavity of the thorax; in this manner setting up traumatic pleurisy, which caused the death of the animal.

Lameness, infrequent.—Cases of foot-soreness from long and continued marching were occasionally admitted into the infirmary. Owing to the nature of the ground this was comparatively rare, rocky and rough travelling being the exception, not the rule. Treatment—rest, cleansing, and the application of an emollient, the patient being kept in the recumbent position as much as possible.

Abnormal growth of toe-nails sometimes induces what at first might appear to be a somewhat obscure form of lameness, the cause not being suspected. The treatment here would be obvious.

Canker of ear, rare.—Usual symptoms and treatment. Crupper galls, often severe, caused by the crupper generally in use by the natives, but dispensed with in the Service; being substituted for by a breastplate; there being a greater tendency for the load to slip backward than forward.

Tetanus supervened upon many of the saddle injuries; it occurred more particularly at Gubat, after the hardship and privation of the desert march. As circumstances prevented the removal of the saddles for some seven or eight days, the wounds could not receive the attention they so much needed, and became enormous gaping sores, exposing an extensive and very sensitive surface to the air, from which traumatic tetanus could only be expected to result, the marvel being that more did not succumb to it; in several instances, however, it was the sequel of slighter wounds. This can be explained by the great tendency of injuries in general to take on this action in hot climates. Treatment of little or no avail. Hypodermic injections of morphia were tried without success, even in the earlier stages of the disease.

Pyæmia, equally fatal, carried off many camels, or caused them to be shot on the road, unable to proceed.

An eruptive febrile disease, called small-pox by the natives, was met with in an isolated form, showing no tendency to spread, and not necessarily fatal.

Exhaustion.—Several and varied influences combined to cause the heavy mortality witnessed in the desert march from Korti to Gubat, but the chief was forced and long-continued marching. The 1st Column which left for the Gakdul Wells, averaged over 30 miles a day; the 2nd Column whilst on the march, about 25 miles per diem. Overpacing whilst heavily laden, with insufficiency of food and water; the allowance of grain per camel between Gakdul and Gubat was only 11 lb., and the journey occupied six days (less than 2 lb. per day), while no water could be given during the same period. It is true that grass was comparatively abundant, but no time could be allowed for grazing to be carried out, and the number of the camels composing the column was quite sufficient to prohibit it in an enemy's country; and although everything was done in the way of collecting the coarse grass and portions of bush, still camels do not take kindly to this manner of feeding, it being their nature to pick and choose when turned out to graze. The march being completed, there was no grain procurable at Gubat, most of the camels having to do the return journey to Gakdul with only a few loads of green dhourra stalks and what grass could be collected to subsist upon. The greater number of camels, after performing the first march from Korti to Gakdul and back (192 miles in six days), were again required to set out, after only two days' rest, for Gubat (172 miles), and this with an altogether inadequate allowance of grain and water. The great mortality which resulted can hardly be a matter for wonder.

Forage allowance at Assouan.—Grain (dhourra or beans), 10 lb.; tibben (chopped straw), 15 lb. for the baggage and 10 lb. for the riding camels. At Wady Halfa, 11 lb. grain and 11 lb. tibben all round. On the march up country, 10 lb. grain; practically no tibben. Korti, grain, 5 lb.; green dhourra stalks, as much as could be collected; no regulated allowance.

Between Korti and Gubat, the allowance dwindled down to 2 lb. of grain per diem in many instances; some corps, better supplied, had as much as 5 lb. for the first few days of the march. The scarcity of grain was due to the difficulty of its transport up country. A composition feeding cake of portable weight and shape, like linseed cake, would be invaluable under such circumstances. It is just possible, however, that the animals would require educating to this kind of food, and this would be an objection to its use. Green forage was supplied when practicable to the depots; this is a necessary and important adjunct. It was the custom to feed twice daily, morning and evening, the largest portion being reserved for the night. Feeding on grain alone, as they were obliged to do for some part of the time, is very detrimental, interfering with rumination and causing indigestion and diarrhoea; like other animals they require a certain amount of bulky food to remain in health. Beans should always be crushed or split, and a like process would be of service in the case of dhourra. Barley had to be given when there was a scarcity of the other two cereals; it does not appear to agree, however, with the constitution of the camel; time is necessary to allow them to feed and ruminate. A very good, rough division of the day is—eight hours for work, eight to feed and to ruminate, and eight to sleep and rest. How seldom could one put this excellent rule into practice!

Grazing, where practicable, is very beneficial, giving the camels exercise whilst collecting their food. It is said that they are not good selectors, often eating plants known to be injurious. In my small experience I did not discover this.

Watering.—It is the custom to look upon this so-called "ship of the desert" as somewhat of a mystery,

on account of its ability to endure the privation of thirst for several days, and it is treated accordingly by many, who act upon the principle that because a camel can live for four, five, six or even more days without water, that you may allow it to do so, or at least stint it, when this commodity is abundant. I consider it is only necessary for their comfort to water every other day when on dry food and the weather not too hot; when on green food less often will suffice. It is a good plan to leave this point to the discretion of the animal itself, although where large numbers have to be dealt with some system must be adopted. I found that nearly all drank eagerly when watered every alternate day; there is no doubt, however, that camels can be, and are, trained in this particular. The inhabitant of the desert is more valuable, therefore, where there is scarcity, than its fellow of the cultivated district, where water is abundant and always get-at-able. The three sets of compartments attached to the rumen, and supposed to be the natural reservoir upon which the camel can draw, having previously distended them with the fluid, contain, on post-mortem examination, portions of the food mixed up with it. This may be owing to the relaxation of the muscular bands after death, with which they are abundantly supplied; the opening and shutting of these apertures can hardly be under the control of the will.

Exercise is very necessary, and should be carried out daily at the depots for at least two or three hours; it is advisable that it be got through in the early morning, to induce a more vigorous circulation of the blood after the cold of the night.

Marches.—The ordinary pace of a loaded "baggage" is put down at 2½ miles per hour, and the working day 8 hours, i.e., 8 hours under the load, which with a convoy would mean 6½ hours' clear marching, to allow for the time occupied in loading up; this would give a distance traversed of about 16 miles, which is quite far enough, not to over-tax the capabilities of the animal. Owing to pressure of time and other circumstances, this rational treatment could seldom be indulged in. Ten to twelve hours doing from 20 to 25 miles, was the more usual routine of work. The riding camel, although not necessarily a faster walker than the baggage one, can be used at the trot for several hours consecutively without apparent distress, doing from 6 to 8 miles per hour.

Although of greater value in despatch and other services requiring celerity, I cannot admit that they have any advantage over the baggage camel in ordinary desert warfare, where the fighting force must necessarily be attended by a large convoy carrying supplies; here the pace is regulated by the slowest, the "trotter" having to keep with the "baggage," and owing to the greater weight-bearing power of the latter, I consider they could be employed to better advantage, and more economically, as mixed fighting and baggage animals; thus obviating a separation of the two, which would allow of a reduction in the total number, as well as a reduction in the matter of forage and the corresponding transport required for its carriage. Trotting camels could always be attached to every column to carry out their especial service. This mixed system is still in vogue in the French Army in Algeria, and is, I believe, found to answer admirably.

Rest should always be allowed, in fact insisted on, after every march of any distance: nothing wears the animals out sooner than being continually on the march. Some go so far as to say that the days of work and rest should be equally divided.

Drivers.—At least one to every three camels, otherwise they cannot be properly looked after and cared for, or the loads properly put on and adjusted on the march. In the late campaign, it sometimes happened that there were five, and often six animals to one driver. The

Somali and the Aden Boys are superior in this particular to the ordinary Egyptian, for although smaller in stature and not so strong, they take a much greater interest in their charges, are more active, and being "clanish" they are always ready to help one another in difficulties. In the desert march they behaved admirably, and showed a good example to Egyptian soldiers and others employed as drivers.

Loads.—From 300 to 400lb, according to the size and strength of the camel, is considered an ordinary load: it should not exceed 300lb where long and continued marching has to be gone through (exclusive of saddle). No absolute and uniform rule can be laid down, as much must be left to the discretion of those in charge. Gross, and not nett weight, should be the one adopted when stores were being issued for transport: the Commissariat Department are only too prone to consider the nett weight, as that alone concerns them. The Transport Department have to deal, however, with the gross weight, and in this case, where matters are urgent, it is the poor beast that suffers, to its own detriment, for at least 25 per cent. has to be added to the nett amount, to include boxes and other cases, often tin-lined, in addition. The boxes for protecting stores should neither be too large nor too weighty (as were the large-sized biscuit cases recently in use); otherwise they are cumbersome to load, and by their greater aptitude to shift, and take up the motion imparted by the animal, are more liable to gall the back and cause further evidence of distress; the great weight and consequent pressure of a heavy load is sufficient in itself to impede and arrest the circulation in the skin, and thus give rise to those injuries which interfere, to no small degree, with the mobility of an army.

Saddles.—A subject offering many points for consideration. The service-pattern riding saddles were principally of two designs, the models being borrowed from those in use at the time in the Egyptian Camel Corps. Modifications and improvements could be made in them, with advantage, though on the whole they answered the purpose required of them. The lashings and woodwork were not always of the best, and often gave way. This was hardly to be wondered at, as they were made by contract and ordered at short notice. With ordinary attention from the rider, no camel, issued sound, should have developed sores or galls, unless under exceptional circumstances of marching or of condition.

Baggage saddles.—Those made specially for the Expedition were mainly of one pattern and of one size, others brought with the camels were of various sizes and shapes. Those from the district around Esneh were superior to all others, being stronger, more stable, and hence more suited to carrying heavy loads. The service-pattern saddle had several defects, the chief being want of strength in the trees and being of one size they were unsuited to the smaller camels, and caused much trouble in altering. The stuffing being of coarse straw, soon wore through the non-durable lining, causing chafes and galls. Fitting on the back as an acute angle Λ , they rested for the main part at the rear, on the extremities of the transverse processes of the dorsal vertebra; a part most liable to injury, especially when an animal is in low condition. The spine bore very little of the weight, and the hump was over-crushed and bruised, not only by the load, but also by the make of the saddle, and the unyielding portion of the trees. The hide lashings often gave way, allowing the key which binds the two halves of the tree together, to come right down upon the wither, and cause by attrition most dreadful sores, very difficult to cure. At a Board on these saddles, of which I was a member, it was suggested that the hide lashings should be substituted by rope; that there should be greater strength and stability of tree, which should also be more open; that the pads be made of two or three different sizes, that the hinder one be lined

with leather to protect the loin, and that these two rear pads, being made into one, be joined at the top, so as to allow the spine behind the hump to take its share of the weight. Breast-plates of soft rope or other material should always be issued with the saddles. The Dongolese pattern saddle is very light, and only suitable for a small load; it is most indifferently padded, and many of the galls must be laid at its door.

The Remount and Sick Depots at Assouan and Wady Halfa were combined, each under one Commissariat Officer. I would advocate a separation, allowing the Sick Depot to be under the control of the Veterinary Surgeon, who should alone be responsible for its working: in fact, to be managed as a military hospital, apart from the interference of the non-professional element. A proper staff should be given him to enable this to be carried out. The disagreements which often arise under the combined system would then be done away with; for the least impartial judge must admit that a professional man must be the best exponent of his own particular calling.

During the five weeks I remained at Assouan, some 3000 camels passed through the remount, and some 300 through the Sick Depot. At Halfa over 200 were admitted for treatment during a period of three weeks.

The Staff of Assistants was inadequate, and they were quite uneducated in the commonest matters of treatment. As camels require no shoeing, little or no thought was paid to the subject of farriers and shoeing-smiths prior to the arrival of corps at Assouan. The Camel Corps had made no provision for men to act as dressers, or to attend animals when on the sick list. At my suggestion, the Commissariat Officers of both the Heavy and Light Divisions sent down one man per troop or section (45 camels), to the Sick Depot daily to learn the simple methods of attending and dressing wound cases; many of these men had previously been shoeing-smiths, but when volunteers were called for in their respective regiments, rather than be left out they gave up their "Shoe" to revert to privates. As an inducement to accept this duty, an extra 6d. per diem was promised them, which they would be entitled to after the campaign would be over. Two of the Transport Companies which came from England were provided with farriers and shoeing-smiths as part of their ordinary establishment; when requiring further help men, without any special training, were detailed to assist them, but often remained in independent charge, owing to the splitting up of the companies along the Line of Communication. Owing to the scarcity of qualified assistants, I had attached to me for duty a serjeant of the Gordon Highlanders to act as farrier, and a private of the 15th Hussars to act as dresser—these men to permanently remain with me wherever I might be. On arrival at Korti, the latter was recalled to his regiment, and being under orders to proceed to Gakdul, I was unable to have this very summary proceeding enquired into, or even get a substitute before leaving. Only a special corps of trained men will ever meet our requirements adequately; without a competent staff, the Veterinary Surgeon's time is taken up with teaching the so-called assistants, and other minor matters of detail, when it might be otherwise employed much more profitably.

Medicines.—In addition to the field chests in use by the Veterinary Surgeon, each sub-division of a corps was given a small box containing medicines and necessities sufficient to meet ordinary requirements. These unit chests were devised by Mr. Burt, Principal Veterinary Surgeon of the Nile Expedition: a very fortunate and wise provision, where veterinary surgeons were so few, the animals so numerous and scattered, and the distances so great. By this system, each part or unit of a corps had the means of attending to whatever sick cases there might be amongst its own camels—chiefly saddle galls—and no excuse could be made for neglecting

them. One, and sometimes two boxes, were supplied to each section of transport (167 animals), and one to every two sections of the Camel Corps (90 animals), and to other corps in the same proportion. Each chest had written directions for the employment of the ingredients it contained. I think this system has everything to commend it, provided that competent hands guard the expenditure, and especially having regard to the length of the line, when it may be impossible to attach veterinary surgeons to separate corps.

Branding.—It was the custom to brand a broad arrow on the right side, and numbers progressively on the left side of neck; nicety of manipulation is required: otherwise, if branded too deeply, the figures become obliterated by sloughing of tissue, and if too lightly done, it soon wears out and becomes undistinguishable. The numbers on the irons should be cut clear and not stamped on the block, otherwise they blurr. A wooden handle, of sufficient length, would greatly convenience the brander, and enable the work to be more thoroughly carried out.

Typhus Bovine.—Rinderpest developed itself amongst cattle arriving at Assouan, brought direct from Odessa for the use of the Army, although passed free, after the usual 24 hours quarantine at Alexandria. Twenty-one deaths occurred in a cargo of 50 between Assiout and Assouan, and it was found by me, on examination, that the remainder had contracted the disease also in a great or less degree. Many post-mortems were made, and the characteristic lesions found in each case. A report was sent by the Principal Veterinary Surgeon to Cairo, explaining the gravity of the outbreak, and a strong private letter by myself to Dr. Sandwith, the then Sub-Director of the Sanitary Board of Egypt, and with whom I had worked on this same subject last year, urging upon him the necessity of closing all Egyptian ports to Russian cattle, owing to the great danger to the country by the continued importation. The opportunity was not thrown away, and I am glad to be able to say that their entrance is now prohibited. A second cargo also lost several animals *en route*; local supplies of cattle were then utilised to meet the demands of the Army, and the risk of bringing infected animals through such a long stretch of territory done away with.

E. E. BENNETT, Veterinary Surgeon,
Army Veterinary Department.

London, June 12, 1883.

(To be continued.)

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

The summer meeting was held at the Angel Hotel, Peterboro', on Friday, June 16th. The chair was taken by the President, Mr. W. W. Grasby, of Daventry. Other members present were: Messrs. T. Holmes, Bourne; A. Lennox, Crowland; T. B. Bindloss, Long Sutton; F. L. Gooch, Stamford; C. Hartley, junr., Lincoln; T. Hicks, Sleaford; R. W. Knowles, Wisbech; G. Lockwood, J. Mackinder, H. Westgate, Peterboro'; H. H. Nicolls, Oundle; E. W. Parkes, Wellingboro'; J. H. Coles, Whittlesea; T. A. Rudkin, Grantham; W. K. Townsend, Market Deeping; C. W. Townsend, Long Stanton, Hon. Sec.

Visitors: Messrs. A. Over, Rugby; F. W. Medlock, Board of Agriculture.

Previous to the meeting the members were hospitably entertained to luncheon by special invitation of the President. The loyal toasts having been duly honoured, Mr. F. L. Gooch proposed the health of the President, and in the course of his remarks said he was sure Mr. Grasby would add lustre to that position he now occupied. He was sure he was expressing the feelings of all

present when he told the President how thankful they all were to him for his present generosity. He himself did not know if the lunch had brought them together, but it certainly was one of the best attended meetings he could remember—and he was one of the oldest members of the Society. At one time they had thought of dropping their meetings, but he now hoped that the present meeting was going to be the turning point, and that all the members would support both the President and the Secretary by regular attendance at the meetings. He hoped they would have some good papers and discussions, by which, with regular attendance the Society would continue to flourish; by so doing they would make Mr. Grasby's presidential year a success which he fully deserved. (Applause).

The PRESIDENT, in returning thanks for the kind remarks made by Mr. Gooch, said it was a great pleasure for him to be in the position he was that day. It was true he took the position with some amount of diffidence, as the meetings had been so poorly attended during recent years. He knew it was often difficult for single-handed practitioners to get away, but there could be no excuse for continued absence year after year. The result of their associating must be for their general good; he himself had never yet attended one of these meetings without having added something to his present knowledge, and he did hope each member would support him by attending as regularly as possible.

The minutes of the last meeting were passed, on the motion of Mr. Knowles, seconded by Mr. Holmes.

The HON. SEC. announced that he had received letters and telegrams regretting inability to attend from Messrs. H. C. Taylor, W. A. Allott, W. W. Lang, R. W. Clarke, C. Hartley, senr., A. Johns, T. J. Keall, S. G. Masterman, J. Marshall, W. Hoole.

The HON. SEC. reported the death of one of the oldest members, Mr. J. W. Gresswell, of Peterborough, since the last meeting. He did not hear of his death until the morning of the funeral, but in the meantime his successor, Mr. Lockwood, had kindly undertaken to represent the Association there, and to send a wreath on their behalf. He had written Mrs. Gresswell a letter of condolence, and had received an acknowledgment.

Mr. J. MACKINDER, in proposing a vote of condolence with Mrs. Gresswell, said he was now perhaps the oldest member, he and Mr. Gresswell having attended the meeting at Lincoln at which the Association was instituted. He had known him for 42 years, and he only had a disagreement with him on one occasion, when he (Mr. Mackinder) had to admit he was in the wrong. They had been great friends, and he felt his death very much.

Mr. GEO. LOCKWOOD seconded, and said he was sure they would all miss Mr. Gresswell's genial presence at their meetings, at which he had been a most regular attendant, sparing himself no trouble to be present. If other members only followed his example, they would have better meetings. The resolution was carried in silence, all standing.

The SECRETARY announced he had received a letter of resignation from Mr. Lang of Brocklesby, and he had already written Mr. Lang asking him if he could possibly continue as a member.

Mr. Lang had explained that he was now at Brocklesby, which had a very poor train service, so that it was very inconvenient for him to be present at the meetings, but on the suggestion of the President, Mr. Hicks undertook to ask Mr. Lang personally to reconsider his decision to give up his membership, and to invite him to the Lincoln meeting in October.

The HON. SEC. said that Mrs. Masterman wrote to say that her husband was away, but she hoped that he would soon be completely recovered from his hunting accident.

A member was reported for being four months in arrear with his subscription, but instead of striking him automatically off the list of members in accordance with the bye-laws, it was decided that his attention should be called to his default.

The balance sheet of the Royal Victoria Benevolent Fund, to which the Association subscribes 2 guineas annually, was laid before the meeting, the Secretary stating that through his inability to be present at the last meeting he had upon his own responsibility sent 2 guineas towards the above fund, as if he had waited until the present meeting the subscription would have been much overdue.

On the motion of Mr. Gooch, seconded by Mr. Holmes, it was decided not to accept the invitation to the Sanitary Congress at Belfast, and the Public Health Conference at Dublin, owing to the distance: the proposer remarking, too, that there were opposing interests in the two Societies.

Mr. F. W. MEDLOCK, of Peterborough, an Inspector of the Board of Agriculture, was proposed as member by Mr. H. Westgate, seconded by Mr. Mackinder.

Mr. COMBERFORD, of Caxton, Cambs., by Mr. C. W. Townsend, seconded by Mr. E. W. Parks.

PRESIDENTIAL ADDRESS.

Mr. W. W. GRASBY, Daventry.

Gentlemen,—I appreciate the compliment in your electing me as President. As a native of Lincolnshire, it is only natural that I have taken a great interest in the welfare of this Association, and although comparatively a junior member, I have always read the proceedings of your meetings and watched progress. My first acquaintance with members of our profession was of men who held office at different times in this Association, men, too, who were held in high esteem by their clients, and whose names were household words in this county.

As a profession, I venture to assert that we deserve all the credit we get, but it is equally true we deserve more of the British Public's recognition than we obtain. A veterinary surgeon, more particularly a country practitioner is, if I may use the term, a whole-time man; few people outside our own profession can have but a scant idea of the really physical labour than is entailed in our every day life, and to no one is it more necessary than to us, that we should be possessed of every mental and physical faculty. There is no old age pension when we are past the hard active work, and fortunate is he amongst us who saves enough on which he may retire from his labours. A lawyer has his head and pocket only to consider, but we must use head, heart, and pocket too. Every labourer is worthy of his hire, but in not a few of our cases the fees obtainable are much lower than their real worth. Ours is a profession that can never be put on a purely commercial basis; for some of our drudgery we must be content with, and rely on, gratitude.

Once we leave our College, we many of us of necessity lead isolated lives, rarely seeing a colleague, and unfortunately, perhaps, some of us may get into a groove and so desire to see less of our brother practitioners. Hence the value of being a member of a Veterinary Medical Society cannot be denied; singly, or even in cliques, men and their ideas fall apart, but undoubtedly unity at least promotes good fellowship, ensures interchange of ideas, and so adds dignity to our profession, and to us as individuals.

As a rule we do not appreciate quite enough the importance of continuous education in our professional life, we must endeavour to be up to date, and keep in touch with each advance in our profession, and contact with men who are doing good pioneer work is a surer means of obtaining that end, and easier than a course of

reading, however thorough. There are many of us who would gladly appreciate a post-graduate course if we could afford to leave our practice, and as a remedy it should be as much as possible brought to us by the Veterinary Medical Society to which we belong, and you will, I hope, pardon my saying that the greatest compliment you can pay the officers of this Association is your regular attendance at each meeting as a practical proof of your appreciation of their efforts to provide interesting subjects for your consideration.

Debate should be encouraged, particularly among junior members. They may rest well assured the seniors are not feeling bored, but taking keen interest in the views put before them. We must all acknowledge the very great advantage in his College education of a graduate of recent years over that received twenty years ago.

I have the very happiest recollection of the great help I have always received when it has been necessary to ask advice over a troublesome case at any meeting of a Society such as ours, and always found any member willing to give me a patient hearing before offering his opinion, and have invariably returned home richer in knowledge and cheered by help so willingly given.

It is not always an easy matter to arrange an attractive programme for each meeting, but a few clinical cases recorded, even though they be of every day occurrence; pathological specimens—always of interest; a short paper productive of discussion, and an occasional demonstration, should be tempting enough to make us grasp the opportunity for half a day spent enjoyably and profitably away from the ordinary routine of our daily life. We must not be content to be practical men only.

Again, too, a Society such as this used properly is surely a specific against any feeling of mistrust and jealousy, a sin of the heart which so readily attacks at times each one of us. We should, then, use every endeavour to place ourselves in a position to render better service to our clients, and the public will be more appreciative of us, particularly those who read and take note of the progress in veterinary medicine and surgery, and this, too, must prove a powerful stimulus against those feelings of self-sufficiency, and those careless habits into which even the best of us find it so easy to relapse.

Unlike the medical profession, we have no general hospital within a few miles to fly to, which is so valuable to their individual members, and to which they can dispatch a difficult medical or surgical case, and at very little inconvenience watch the progress made under the care of a specialist who is provided with every facility by generous donations from a grateful public. With us the practitioner has a constant difficulty in obtaining anything approaching sanitary surroundings even for his patient, and a skilled willing hand to assist is most difficult to obtain within a reasonable time. He is expected to be prepared to battle with any difficult surgical case that may arise at a moment's notice, when not only skill is required but much manual labour.

The modest income of many of us will not admit of our being extravagant in the purchase of medical or surgical appliances which are not very frequently required, and really I can imagine it must be a very happy state of mind for a veterinary surgeon to be in a position to fit up his establishment with every modern requirement.

At the present moment the very unsatisfactory financial position of the Royal College of Veterinary Surgeons cannot fail to appeal to every member of our profession, and I believe that a voluntary subscription from those who feel disposed is the best means of tiding over the difficulty temporarily. For the welfare of the whole profession it is imperative that the stigma of want of funds should be removed at the earliest opportunity,

and looking through the lists of bequests in our daily papers it seems to me so characteristic of the world's neglect of our profession that amongst many large sums given to already well endowed institutions not one thought is ever given to us—the poorest of all professions—and to which a few hundreds even would be of such marked benefit for the welfare of the whole animal world and as a result give pleasure and profit to owners of animals that words cannot adequately describe.

With regard to the politics of the profession I will not weary you, enough has been said in the press lately in election addresses. Of the new Bill I approve. It is absolutely certain those in authority at Red Lion Square cannot look after our interests with due advantage to us without capital, and you will agree we need much better protection from the ravages made by unqualified men. It is strange, but true, that there are men who, well educated but unprincipled, having some knowledge of medicine and surgery, can bring about disastrous results to a good practice. It is most astonishing how the public can be influenced by a clever unprincipled man.

It is the duty of every parent or guardian of the future veterinary student to spare no expense in his education prior to his entering College, for certainly in the future it will be the men with the highest training who will be successful in obtaining the most prominent public appointments appertaining to our profession.

Our efforts in prevention and treatment of disease are certainly more appreciated every year, but there is much more to hope for, particularly in our smaller towns, in which those in charge of its welfare show a total lack of the requirements that are so essential for the proper supervision and inspection of the food of its inhabitants.

In conclusion, gentlemen, I thank you for listening to these remarks. If you will give me your support during my year of office, with the help of our friend and Secretary, Mr. Townsend, to whom we owe a debt of gratitude for his untiring energy, I will do my utmost to make each meeting pleasant and instructive. (Applause.)

Mr. GOOCH proposed a vote of thanks to the President for his address, which he suggested should be recorded in the minutes, containing as it did several matters of interest to the profession.

Mr. HICKS seconded, and the motion was carried with acclamation.

THE NATIONAL.

Tacit approval was given to the amended rules proposed by the Committee of the National Veterinary Association on the motion of Mr. Holmes, seconded by Mr. Westgate.

INSTRUMENTS AND THEIR USES.

Mr. F. L. GOOCH then exhibited a very interesting set of surgical instruments, and in a preface explaining their uses, said:—

Mr. President and Gentlemen,—I must first of all apologise to you for the subject before you for discussion. When I proposed you as President, sir, I did not agree to give a paper, and I was very glad when you informed me you had secured a paper for the Peterboro' meeting, and I am only sorry the gentleman found himself unable to give us a paper on "Contagious Abortion in Cattle." Knowing the gentleman as I do I feel that he would have done justice to the subject, and aroused a very good discussion as the subject would be most interesting to provincial practitioners, and it was only owing to the great persuasive powers of your President that I consented to give a few notes on some every-day instruments, hoping for the contribution of other men's experience by way of discussion.

I do not intend to bring to your notice anything new,

but I do hope to explain some alterations, which I consider improvements, in some of our every day instruments. Before dealing with any one particular instrument I should like to preface my remarks.

The Keeping of Instruments.

I consider that every practitioner should keep his instruments, no matter how few he might possess or how great the number, in a clean, aseptic, and bright condition. I have sometimes been disgusted at the condition of instruments in some of our public institutions, as well as in some practitioners' surgeries. This is not only detrimental to the life of the instruments but in the eyes of the public detrimental to the institution or to the private practitioner, as well as frequently a source of danger to our patients. I, myself, have been asked to attend cases in which an operation performed by an empiric has been the cause of blood poisoning, and also in one case in particular in which a disease was spread to twenty-one animals by inoculation through an infected instrument.

When in the surgery they should be arranged as far as possible so that one instrument may be obtainable without many others, and also, if possible, in glass cases, so that one's clients may be able to see them if they should visit your surgery. It is surprising what opinion your clients may form of you by the condition of your surgery—more particularly as to its cleanliness.

There are numerous instruments manufactured by the instrument makers that are not worth the metal they are made of; they are only fit to adorn an instrument shop and are only wasting room in a surgery. The other evening I was in the company of one of our professors who told me that a surgeon in the first rank of his profession told him that he wished that a practical surgeon would turn instrument manufacturer.

That is just what we want in the veterinary profession. Myself, I have been very fortunately situated. I have not only a mechanical turn of mind myself, but I have a father who can make exactly what he requires, and many a time we have come home from a difficult operation saying we wanted an instrument of such a nature, and he has immediately set to work and forged an instrument to meet the case the next time it may occur. Practically that has been the way in which nearly all the instruments that I venture to speak on this afternoon have been thought out and made.

Many of our instruments of course, on account of the size and strength of our patients, have to be made very heavy and unwieldy, but frequently an instrument maker will make them strong and heavy where it is unnecessary, and light and weak where strength is required. This I think I can substantiate in one or two instruments before you.

Choice of Instruments. This more particularly applies to younger members of the profession. It is almost impossible, unless you are a very wealthy man, to purchase all the necessary instruments at once, but I would advise any young man to purchase those instruments he requires most in the district in which he intends to practice, and above all, to buy the best instruments. Cheap instruments are always dear in the long run. It is surprising how some practitioners get through with very little expenditure on instruments, and I have been called upon to perform operations in a brother practitioner's infirmary, when I have required the most commonplace instrument, and it has not been forthcoming or if it was, it was of such a primitive character that it was almost impossible to apply it to recent surgery.

Mr. Gooch then displayed his instruments one by one, fully explaining their use. The exhibits included a twitch, a dog muzzle, firing irons, a wart iron, two sets

of parturition instruments in cases, foot shears, lamb claws, sandcrack instruments, teeth instruments in case and out, a tourniquet for docking, shoeing tackle, abscess bistoury, wound sutures, a patent fleam, trocar and canula (abdominal), a mouth gag, a pill deliverer, and balling guns (Stewart's).

The PRESIDENT exhibited various instruments, also a very neat medicine chest which he always took with him in his trap.

Mr. LOCKWOOD wished to thank Mr. Gooch for the excellent display and description of the various instruments, remarking that with such a collection one needed no instrument maker. He also expressed his approval with the remarks made by the essayist with regard to the advantage claimed for his tooth instruments over those of some now in regular use.

Mr. MACKINDER, in thanking Mr. Gooch for his excellent display, said that the essayist had pleased their eyes as well as their ears. There were, he added, no end of instruments before them, and to possess them all one must be almost a Rothschild. He thought Mr. Gooch had made a mistake in not being an instrument maker.

Mr. TOWNSEND said he must first of all thank Mr. Gooch for so kindly coming there that afternoon and filling up a gap which at one time seemed evident. He must also, like the President, thank the members for turning up so well at this meeting, he did hope that the present meeting was only to be the first of a series of successful meetings, and that they would have many meetings in the future equally successful. The Society had, as the members were no doubt aware, certain in-

struments, but he was sorry to say they could not at present give such an excellent display as they had before them at the present time.

Mr. OVER, as an old friend of the President, and as a visitor that afternoon, said he could not let the present opportunity pass without thanking both the President and the members for the enjoyable time spent with them that day. To the Essayist, also, he wished to add his thanks, for he thought the display and general description of the various instruments was excellent.

Mr. LOCKWOOD, on behalf of the members, had much pleasure in proposing a very hearty vote of thanks to Mr. Gooch for his kindness in coming there that day.

Mr. GOOCH said that both he and his father had always been greatly interested in surgical instruments and it had been a great pleasure to him to come there that day. He should like to add that any of the instruments now before them were at the disposal of the Society,

Mr. RUDKIN exhibited a cystic calculi (*in situ*) obtained from a Pomeranian bitch, he showed it more because of its large size, as to him it appeared to more than half fill the interior of the bladder itself.

A very successful meeting closed with a hearty vote of thanks to the President, on the motion of Mr. Hicks, seconded by Mr. Rudkin, who attributed the successful gathering partly to the personality of Mr. Grasby, and hoped the Society would have many such meetings in the future.

C. W. TOWNSEND, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.	
	Outbreaks		Animals				(including Farcy)		Counties Affected			
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Animals.	Out-breaks	Animals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.
Gr. BRITAIN. Week ended June 24	13		15				3	10		...	64	664
Corresponding week in {	1910	20		21			6	13	London 8	2	38	290
	1909	19		20			13	43		1	53	432
	1908	25		29			9	28		2	75	529
Total for 25 weeks, 1911	458		570		1	18	103	271	Middlesex 1	302	1280	14050
Corresponding period in {	1910	781		941			174	479	Surrey 1	314	688	6256
	1909	699		934			291	1134		455	869	7837
	1908	602		791	3	112	394	1298		628	1126	5570

Board of Agriculture and Fisheries, June 27, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended June 24	...	...	...	...	...	...	2	...	1	1
Corresponding Week in											
1910	...	...	...	...	...	...	...	...	...	...	38
1909	...	...	...	...	...	...	...	1	2	6	91
1908	...	...	...	...	...	...	...	3	1	3	52
Total for 24 weeks, 1911	...	5	6	...	...	2	3	43	240	53	911
Corresponding period in											
1910	...	4	7	...	...	1	2	36	332	52	1277
1909	...	3	3	...	...	...	...	47	280	43	697
1908	...	4	7	...	...	...	...	24	264	100	2008

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 26, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Personal.

Mr. W. FREEMAN BARRETT, M.E.C.V.S., Barrister-at-Law, was commanded to attend the Coronation Service at Westminster Abbey as representing the veterinary profession; and was therefore present at the ceremony on behalf of our Body Corporate. All veterinary surgeons will share our pleasure at this Royal recognition of the profession in the person of its official head.

Vet.-Major E. P. J. Barry, F.R.C.V.S., 2nd Life Guards, was called to the Bar on Wednesday, June 28th.

The Duke of Connaught, as a Bench of Gray's Inn, made a special point of being present in hall on Wednesday night, to congratulate Major Barry, 2nd Life Guards, on his call to the Bar, at that Inn, though a couple of years must yet elapse before—the completion of two decades of service in the Army—he lays down the sword to assume the toga. Major Barry, who is of Irish nationality, saw service in the Tirah Campaign of 1897-98, for which he received a medal with two clasps, and was on the Special Commission sent out to South Africa in 1902 to examine into the question of remount supply. He has served with the "2nd Life" for twelve years, and for some time past has also been on the Executive Staff at the Royal Naval and Military Tournament as veterinary expert.—*Daily Telegraph.*

Mr. AINSWORTH WILSON, F.R.C.V.S., of Witham, Essex, was appointed Professor of Surgery and Obstetrics, and **Mr. J. B. BUXTON,** of Barnet, was appointed Professor of Surgery and Dietetics, at a special meeting of the Board of the Royal (Dick) Veterinary College, Edinburgh, on Wednesday last.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,
WAR OFFICE, WHITEHALL, June 23.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.
William Hepburn to be Lieut. Dated May 10.

Maj.-Gen. R. Pringle, C.B., D.S.O., was the representative of the Veterinary Division of the War Office Staff in the Coronation procession.

THE LIMITS OF DIAGNOSIS.

"Yet some there were, among the sounder few
Of those who less presum'd, and better knew."

Sir,

I must thank Mr. Mayall for his criticism of my article on the above subject.

There are a few points however, which require some explanation on my part, as evidently Mr. Mayall has misunderstood the substance of what I intended to convey.

1st. I did not advise that the practitioner should discuss the pros and cons of a case with his client, or disclose frankly all his fallibilities. What I meant to convey was that it would be an advantage in veterinary practice if clients were better acquainted with the limits of diagnosis, and less inclined to believe in the infallibility of some practitioners. Then they would not expect so much from ordinary mortals and would allow for the possibility of errors.

A medical man is not expected to give a dogmatic opinion at his first attendance on a case, he is allowed ample time, and a careful and prolonged examination is appreciated by the patient and his friends. But in consequence of the tendency which some veterinary surgeons have to give dogmatic opinions after a trivial examination of a case, it has become the custom to expect a rapidly formed opinion, and to ascribe the power of giving such to special skill.

And as I have already remarked, the efforts of the man who devotes special care and attention to diagnosis are not appreciated by the public, in fact he is often described as "not practical" by some, and ignorant by others.

2nd. With reference to the consignment of the body to the knacker, what I meant to convey was that cases in

which a dogmatic opinion as to diagnosis has been given, may die, but no trouble is taken by the practitioner to confirm the diagnosis. In fact the more infallible the practitioner becomes, the less likely he is to trouble himself about autopsies; were he to regularly test the correctness of his diagnosis in this manner, his vaunted skill would soon be appreciated at its correct value.

The owner of the animal takes little interest in a dead body, and unless he is of a litigious disposition, he is not likely to question the practitioner's opinion or skill.

And what an enormous amount of errors in diagnosis are consigned to the care of oblivion, and one might add also, what a lot of valuable pathological material is lost in the same manner.

3rd. With reference to the effect of treatment on the results obtained, perhaps I should have added "by drugs." No doubt attention to hygiene and dietetics proves a valuable assistance to the *vis medicatrix naturae*. I must confess that every year I have less faith in the supposed virtues of many drugs, and more belief in the natural powers of recovery.

That some drugs are valuable no one will deny, but in a large number the therapeutical effects are purely imaginary. A little experience in contract practice gives valuable information in this direction. Here there is no inducement to prescribe drugs, and the results are quite as satisfactory, if not more so, than in ordinary practice, where the supplying of drugs is a *sine qua non*.

A few weeks ago I attended a Shire stallion suffering from influenza, temperature 105.5°. The usual simples were prescribed, viz., small doses of Mag. Sulph. and Pot. Nit. in the food and drinking water. These the animal absolutely refused to touch, so nothing else was ordered. The temperature descended, the appetite was maintained, and a good recovery ensued.

This is not an isolated case, I have come across a large number, and if some of the new anti-pyretics had been prescribed, what a false testimonial I would have given to the drugs.

Consider the number of cases given up as hopeless, that recover when no further treatment by drugs is adopted.

Some time ago I attended a valuable cow suffering from inhalation broncho-pneumonia due to faulty administration of a drench. She appeared hopeless, and drenching was impossible. The owner after some days said he would take no further trouble with the case, as the animal was sure to die. I agreed with him. An old herdsman came along and gave the cow a few raw potatoes, which she ate. From that time forward she improved and made a good recovery.

Query. Had I given drugs the result would have been attributed to their employment; it would be just as reasonable to ascribe the result to the potatoes.

I attended a dog suffering from ulceration of the cornea as a sequel to distemper. The owner was an ophthalmic surgeon, and he wished to carry out the orthodox treatment, but the dog objected so forcibly that I told the owner the treatment would do more harm than good. So a simple boric lotion was prescribed and a good recovery resulted.

This is not an isolated experience, I have often observed that both in horses and dogs affections of the eye have recovered, when all treatment has been left off.

The question of the means adopted and the effects that result is an interesting one. Some years ago I attended a cow the property of a solicitor, for some obscure gastric derangement. On my third visit I found that the cow's tail was adorned with a piece of blue ribbon, and underneath this was a filthy concoction, covering a wound on the under surface of the tail. The attendant informed me that his master had brought a "charmer" or "wise-man" from a village 12 miles away, the previous evening, and that this worthy had cut out a worm from the cow's tail, and applied the charm. Moreover, since the ordeal had been carried out the cow commenced to feed, and was now all right.

An interview with the master corroborated the man's statement, and what was more, he was well pleased with the work of the wise man—far better than with mine. Verily this was "casting anchors of faith into a sea of superstition." Still it is very much on a par with the deep-rooted faith that exists as to the effects of drugs in the minds of horse and stock owners.

En passant, I may say that "worm in the tail" is a very common disease (?) in this district, and accounts for a very varied list of symptoms.

(4) *Re ailments of horses' teeth.* I am of opinion that the unfortunate stomach is more often subjected to the onslaughts of drugs when the teeth are really at fault than *vice versa*. And certainly less harm is done by simply rasping the teeth, even though the skill of the equine dentist is not necessary, than by administering drugs when the teeth really require attention.

I agree with Mr. Mayall that some practitioners overdo the equine dentistry fad, but in the present age of specialists some new fields must be discovered. The teeth are rasped and the horse's appetite returns—means adopted and results gained. From a commercial aspect I think we should pander to the fads of the public and follow the advice of Iago "Put money in thy purse." From a scientific point of view, well, *entre nous*, we must, if we possess any sense of humour, smile secretly at the implicit belief that the public have in the virtues of drugs and in the mysteries of the healing art.

When this belief is shared by the practitioner, and sophomania accompanies the ledger therapist, then indeed we see very little difference between his methods and those of the patent medicine vendor, who pitches his tent in an agricultural show ground and caters for the wants of a gullible public. Both have the same object in view, viz., the making of money, and that both succeed in this laudable desire is unfortunately too well known to those who practise on scientific lines, who admit the limitations of human skill, and are foolish enough to confess ignorance in a calling where dogmatism is the master word to financial success.—Yours etc.,

Cork.

E. WALLIS HOARE.

THE AMENDMENT BILL AND THE OBJECTORS.

Sir,

Mr. Isherwood's comments upon that contemptible "Address to the Members of the House of Commons" in your current issue have voiced the feeling that will be prevalent throughout the profession. But in one respect I think Mr. Isherwood might have gone further. He might well have asked, as I ask now, whether any one of the individuals whose names are appended to the circular has anything to say in defence of it. It was circulated with the object of influencing men unacquainted with veterinary affairs: and as it did not appear in *The Record* till about a month after its issue, we may infer that its signatories were not particularly anxious that it should become known to the profession at all. Now that it is known to us, what have those responsible for it to say for it and for themselves?

Many points in this precious circular invite comment; and we should all be interested to hear any one of the five worthies who signed it speaking on behalf of whatever portion of it appeals to his intelligence as the least indefensible.

But lest they should find a difficulty in deciding this point, and keep silence on that account, I wish to draw their particular attention to one statement in their production, and challenge each and all of them to justify it. In one sense it is the most important portion of the circular, for it is perhaps the most likely of all to have weight with the M.P.'s to influence whom it was advanced. I beg leave to transcribe it in italics—I think it deserves the distinction.

"There is a very strong opposition to the Bill in the form of a Committee consisting of nearly nine hundred members."

Now I should like to ask our five friends what evidence they can give us either that there are really anything like nine hundred members opposed to the Bill, or that they themselves have any faith in the existence of such a phalanx of support? If there are really nine hundred opponents of the Bill, why are they not represented by a majority on the Council? They could have been by this time, and they would have been, if their number had even approached 900. Eight members of Council were elected this year, and the votes they received ranged from 1009 to 646. Nine were elected last year, and their votes were from 973 to 631. These figures

show clearly what 900 voters united against the Bill could have done; and yet at neither of the two elections did this Committee, or ghost of a Committee, dare to put a single candidate in the field. Now I ask these five "Members of Executive Committee" why it is that the opponents of the Bill have made no attempt to influence the Council elections for two years past—and I defy them to find an answer which will not reduce their "Committee consisting of nearly nine hundred members" to *non-existence*.

Is this alleged "Committee" really anything more than the resurrected corpse of some sort of committee which was hurriedly collected (by post-cards in answer to a circular, I believe) to oppose the Bill in its *earliest form* about three and a half years ago, and never justified the assertions then made regarding its numerical strength? Many of its members, no doubt, were men who had been momentarily carried away by the "raging, tearing propaganda" against the Bill which was set on foot early in 1908; and not a few must have speedily withdrawn whatever support they had given to the Committee and its founder. Certainly the election of 1908 revealed no such strength as 900 votes in the Bill's opponents. A year later, in 1909, we all remember that a Committee (probably the same one nominally) ran eight candidates for the Council and failed to get one of them in—and most of us fancied that immediately afterwards the Committee itself died of grief and rage at finding itself so much smaller and weaker than it had thought it was. As an attempt is now being made to give it a semblance of life in order to impress M.P.'s who may well suppose it to be a potent and active body, we have a right to ask those who profess to represent it to give us some evidence of its existence.

A further prospective advantage of such explanation from the five "members of Executive Committee" is that their individual utterances might give us some inkling as to what manner of men they are. Most of us sadly require enlightenment on this point with regard to some of them; though not, I admit, with regard to all. Mr. Hurdall, of course, we all know. As a homeopathist and an antivivisectionist he has greatly contributed to the entertainment of the profession on certain well-remembered occasions in the past; but the mere thought of what would have befallen veterinary science had its votaries accepted Mr. Hurdall's guidance in medicine and pathology is enough for most of us when he presents himself before us as one desirous of shaping or modifying our professional development in any direction whatever. Mr. Dyer, too, we are beginning to know, if only through the lugubrious wails and melodramatic appeals with which he has been wont to enliven your correspondence column since the Bill was taken in hand.

But there are other members of the "Executive Committee" who are not so familiar to us. However fragrant their names may be to the public and to their professional brethren in their own localities, I venture to say that those names are quite unknown to the bulk of the profession. The person who sent you that perfectly inane letter signed "Justitia" two or three weeks ago stated therein that "a well known M.P. had asked him a very foolish question about the Bill—or, at least, it was a very foolish question to put to a being having the mental capacity of 'Justitia.'" But what if some M.P. were to individually interview each of the now famous quintet, and put this question to each in turn—"What evidence can you give me to show that you have ever taken the slightest interest in the progress of your profession throughout the decades you have passed in it, until you chose to resist a proposal that you should contribute less than fivepence a week to its funds?" It would be an unkind question—and the mental picture of some of the poor things trying to answer it arouses feelings of such cruel mirth in me that I judge it best to conclude abruptly. The fact is that it is simply impossible for anyone with any inside knowledge of the profession to take such little opposition to the Bill as still lingers at all seriously. But Members of Parliament have no such inside knowledge of the profession, and this audacious attempt to magnify the importance of the opposition in their eyes should be a very serious matter indeed in ours.—Yours faithfully,

"MEPHISTOPHELES."

Several communications are unavoidably held over.

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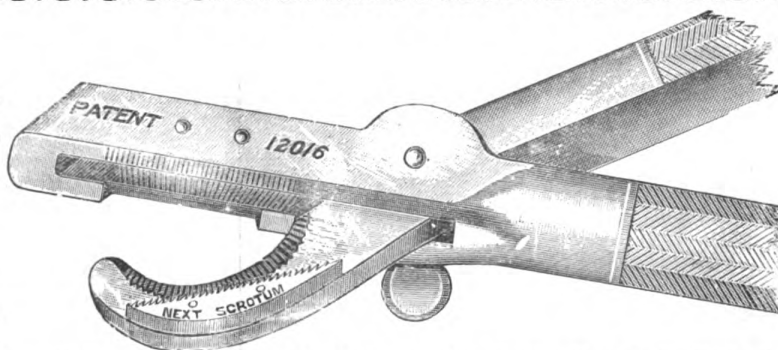
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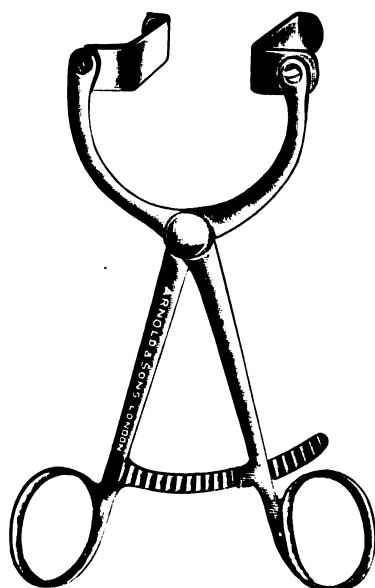
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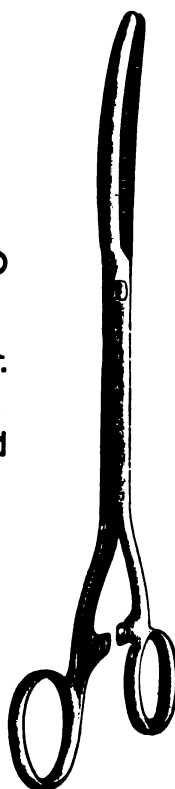


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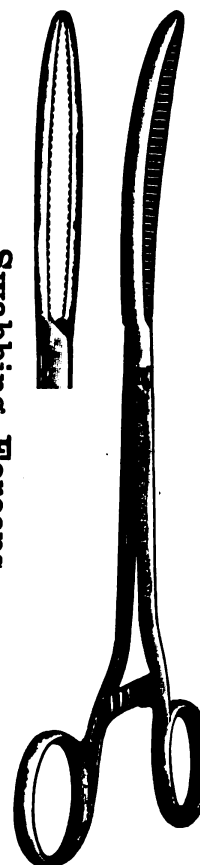


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G. P. MALE, Hon. Sec.

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See also page VII.

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writes:—

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Witham, Essex.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1200

JULY 8, 1911

VOL. XXIV.

FOOT-AND-MOUTH DISEASE.

We are accustomed to invasions of this disease at intervals of a year or two: but it is a little unusual for two apparently distinct ones to occur within four months. The last outbreak, at Chobham, occurred so recently as March last, and was promptly stamped out by the action of the Board of Agriculture. It appears just possible that the present one near Hounslow may give rather more trouble. The disease was first detected in the pigs of one farm; but we understand that it has since been found among the cattle of a neighbouring one, and of course further centres of infection may yet be discovered. There seems, however, no cause for alarm. The Board of Agriculture is taking all necessary measures, a keen lookout is being kept throughout the surrounding districts, and we may confidently expect that the same authority which has stifled so many former outbreaks in their inception will be equally successful with this one.

Generally, outbreaks in this country occur not far from a port, and always when disease exists on the Continent. Considering the numerous media which are capable of conveying infection from Europe here, and the impossibility of preventing such conveyance without unwarrantable interference with trade, it seems clear that whenever foot-and-mouth disease prevails in the nearer European countries, Great Britain will never be safe from visitations of it. Thanks solely to the Board of Agriculture, these visitations have done us very little harm of late years; but their frequency illustrates the necessity for an efficient public veterinary service. Those who can remember some British outbreaks of foot-and-mouth disease in old years, or who have seen its present ravages in another part of the world, will agree that the Board's officials amply repay their upkeep to the nation by their work in connection with this one disease alone.

THE DICK COLLEGE.

It seems that the Dick School is to undergo a development that would once have seemed impossible in connection with veterinary teaching in this kingdom. The purchase of a site of $1\frac{1}{2}$ acres, and the intention to erect new College buildings thereon at an estimated cost of £50,000 will speak for themselves to those who know how often and how seriously the activity of our training Colleges has been hampered by financial difficulties. The historic Edinburgh School had its share of these in the past, and nevertheless did good work. We shall all be glad to see this signal increase in its facilities for work.

RESEARCHES ON THE TREATMENT OF LIVER-ROT IN SHEEP.—By M.M. RAILLIET, G. MOUSSU, and A. HENRY.

Dear Sir,—If you could find room in *The Veterinary Record* for the following translation of an article on Liver-Rot from the *Recueil de Médecine Vétérinaire* of 15th May last, you will much oblige. The subject is a very important one, the disease causing a greater loss to flockmasters in the British Islands than any other two diseases together. Towards the close of last session I called the attention of my class to the first series of experiments made at the instigation of the French Government and referred to in this article, and expressed my regret that no substance had been found which seemed to have the least effect on the flukes in the liver. Should the promise of the article be fulfilled and a satisfactory remedy found for "rot" in sheep it will be nothing short of a boon to the flockmaster.—I am etc.,

J. R. U. DEWAR.

Owing to the losses caused amongst French cattle for several months through the prevalence of fluke disease, at the instigation of the Minister of Agriculture we entered on an investigation and carried out some experiments for the purpose of finding an agent which would destroy the flukes in the bile ducts.

We have already described (*Ibid.* 15th April last, p. 236) several of these experiments. One series bearing on the action of medicines known to act on the liver as aloes, calomel, salicylate of soda, and "boldo"—the others various products—phosphorus, arsenic, mercury, etc., all of which gave only negative results.

We have been more fortunate in a new series which included particularly tartar-emetic, urotropine, atoxyl, and etherial extract of male shield fern.

The sheep treated were, as a rule, very seriously affected with the disease, badly infested with flukes and had been for a considerable time with an advanced cirrhosis, and often some distomes scattered in the peritoneal cavity—after having perforated Glisson's capsule. Most of them were infected at the same time by large flukes—*Fasciola hepatica*, and small flukes—*Dicrocoelium lanceatum*. We found these two species manifested a very different resistance to the action of medicines. The diagnosis was always verified in the living animal by microscopic examination of the faeces.

With tartar-emetic and urotropine the results have again been negative; with atoxyl we obtained

in one heifer only, the evacuation of some large flukes evidently wasted.

But the experiments with extract of male fern have been, on the other hand, pretty conclusive.

To our knowledge, Alessandrini is the only one who has recorded a positive result from the employment of this agent. In two sheep very seriously affected, which died two days after the administration of the medicine, he states that the very numerous flukes collected in the intestine, in the gall bladder, and in the bile ducts were dead and already wasted; but only a mere summary is given, and neither the dose of the extract, the duration of the treatment, the number of the flukes, nor the conditions found at the post-mortem.

Our experiments were carried out on five sheep, weighing from 55 to 70 lbs., all badly infested with flukes, and at a very advanced stage of the disease. Each dose, given by the mouth, consisted of 5 grammes of etherial extract mixed with 25 c.c. of oil. Three sheep from the same lot were not treated but kept for comparison. The post-mortem of all the subjects was performed immediately after death, which is an essential condition for the true appreciation of the results.

The first received a single dose and died twelve hours after, its gall bladder and bile ducts contained 390 large flukes and numerous small flukes—all living.

The second received two doses at six hours interval, and was killed *in extremis* twenty-four hours after the second dose. The bile ducts contained numerous small flukes, all living, and 55 large flukes. Of these latter only four found in the smaller ducts were alive, the others were already wasted, stretched out, and of a yellowish green colour. The gall bladder contained 142 large flukes, dead, of which only three presented this characteristic change; the small intestine 16 wasted, and the large intestine 10 dead but not wasted.

The third received three doses at sixteen and twenty-four hours interval. It was killed three days after the last dose. The bile ducts contained some small flukes quite lively, but we did not find any large flukes in the ducts nor in the intestines. The gall bladder contained nine dead, and all wasted.

The fourth received four doses at twenty-four and forty-eight hours interval. It died seven hours after the last dose. The bile ducts contained numerous small flukes, all living, but no large flukes. The gall bladder contained five large flukes, dead and wasted, and about 50 quite lively in the peritoneal cavity, with lesions of peritonitis.

The fifth received four doses at forty-eight, twenty-four, and twenty-four hours interval. It was killed three days after the fourth dose. Post-mortem: some small flukes in the bile ducts quite alive. No large flukes found anywhere.

The three control sheep died, or were slaughtered, in the course of the experiments, and respectively contained in the bile ducts and gall bladder 178, 85, and 497 large flukes, and numerous small flukes—all living.

The alteration which takes place in the large

flukes under the influence of the extract of male fern (and a little also from the atoxyl) is rather peculiar. It starts at the posterior extremity of the body, and gains little by little the anterior regions. We sometimes found individuals with a large part of the body already greenish, stretched out and wasted, whilst the part anterior to the ventral sucker had preserved its normal appearance and the cephalic prolongation effected various movements.

Another observation which seems to us of real importance is that when the large flukes lose their vitality in the liver, the bile loses the brownish colour which is one of the characteristics of "rot," and resumes its clear greenish tint and becomes quite limpid. The brown colour is due to the material excreted by the flukes from the mouth—unique opening of their digestive apparatus.

It is well known that the elimination of the flukes represents but one part—certainly an important part—of the treatment, but it is permissible to hope for the recovery of the subjects if we can treat the animals at the commencement of the affection, and before those cirrhotic changes have taken place which are necessarily irreparable.

Summary.—Of all the medicinal agents we have tried to destroy the flukes in the liver of the sheep, one alone has seemed to give clear and positive results—etherial extract of male shield fern. Also, it seems to act, at least in the conditions in which we have tried it, only on the large flukes, and exclusively on those of the liver; it does not affect the parasites which have migrated to the peritoneal cavity. Four doses of 5 grammes each at least seem necessary in order to assure the success of the treatment.

It is expedient to add that the use of this therapeutic agent for liver rot, of which the action against worms in the alimentary canal is well known, allows it to act at the same time against other parasitic infestations of the digestive tube—more especially gastro-intestinal strongylosis.

COMPLEMENTARY RESEARCHES.

Since the presentation of this note . . . , we have repeated the treatment with male fern on four sheep, retaining as a control a fifth subject of the same lot. All these animals had been treated a month before with other medicines, but without success. Their faeces always contained in abundance the eggs of the large flukes. Each of these four sheep received daily for four consecutive days 5 grammes of the extract in 25 c.c. of oil. They were all slaughtered four days after the administration of the last dose, the post-mortem performed at once gave the following results:

No. 1. Weight 46lb. The liver did not contain a single large fluke, but presented very marked cirrhosis, proving that the disappearance of the parasites was quite recent. The bile was normal in appearance.

No. 2. Weight 66lb. We found two living large flukes in the smaller ducts, an adult and a young one, and three dead adults, wasted. Hepatic lesions moderate, bile of normal appearance.

No. 3. Weight over 70lb. The liver greatly altered contains still 26 large flukes living and one dead. Bile almost normal.

No. 4. Weight 53lb. Liver little affected, one large fluke still living. Bile of normal appearance.

No. 5 (control). Weight 64lb. Liver markedly cirrhotic, contains 296 large flukes all living. Bile brownish. In all those animals the bile ducts also contained a few small flukes living.

We see that all these results are in general agreement, and that the efficiency of the extract of male fern for the destruction of the flukes seems well confirmed.

It remains to find the exact dose of the medicine, the limits of tolerance, etc. In the last experiments we observe that the largest number of living flukes is met with in the heaviest sheep. Perhaps the dose had been rather too small for the subject. We propose to try 1 gramme for each 5 kilos. of live weight.

We are asked on all sides for indications concerning the treatment of cattle. Experiments with them are yet too incomplete to enable us to give definite directions. But they will be made in a similar manner, and with all the prudence necessary to avoid the toxic effects of the medicine. The average dose to start with will be about 30 grammes for a live weight of $6\frac{1}{2}$ cwt. to $7\frac{1}{2}$ cwt.

NILE EXPEDITION 1884-5.

(Continued from p. 11.)

VETERINARY SURGEON S. M. SMITH'S REPORT, NILE EXPEDITIONARY FORCE, 1884-85.

To the Principal Veterinary Surgeon, War Office, London.

Sir,

With reference to the recent operations of the Nile Expeditionary Force, I have the honour to submit the following report of my movements, etc.:

1. I was attached to the 19th Hussars, stationed at Abbassich, Cairo, under the command of Lieut.-Colonel P. H. Barrow, C.B., C.M.G., the regiment being ordered to proceed up the Nile on the 25th October, 1884.

As soon as the regiment received orders to be held in readiness, I applied for 400 sets of No. 1 shoes and sufficient nails, to be supplied by the Ordnance Store Department, at Kasr-el-Nil. The Regimental Quartermaster was unable to obtain this quantity, and to endeavour to make up the deficiency a number of locally made shoes and nails were supplied at the railway station as the regiment was leaving, and which I found, on examination, to be totally useless, the shoes being badly made, coarsely pritchelled, and too large, and the nails much too large for the purposes required. They were therefore returned to the Ordnance Stores on the first opportunity.

2. Besides the No. 1 shoes I actually obtained from the Ordnance, I ordered the farriers to pack all the No. 1 Store shoes and any that they had in their possession.

3. Long before the regiment received orders to be held in readiness, I suggested to the Principal Veterinary Surgeon, Cairo—Veterinary Surgeon 1st Class, C. Clayton—that a large number of No. 1 shoes should be specially telegraphed for through the Ordnance, as I expected, in case the 19th Hussars were ordered on active

service, they would be mounted on native horses. This, I believe, was done, but the shoes could not have arrived in Egypt in time. There was afterwards a great difficulty in obtaining shoes, and here I would most respectfully suggest that a smaller shoe should be kept by the Ordnance for colonial purposes, No. 1 shoes being generally too large.

4. The regiment proceeded dismounted to Wady Halfa. The portable portion of the regimental forge was taken to pieces, and conveyed with the heavy baggage. A small quantity of coal was also taken, which was afterwards almost invaluable, owing to the necessary alterations in the size of shoes to fit the small feet of the native horses.

5. At Assouan, E Troop was ordered to remain to collect a number of horses of the Egyptian Cavalry, and march to Wady Halfa. The remainder of the regiment proceeded by river in steamships. On the 13th Nov., 1884, 137 horses were handed over by Major Grenfell, Egyptian Army, to the 19th Hussars at Wady Halfa, and on the 14th 203 horses were handed over. They were mostly unshod, those that were so being roughly and badly shod by the native farriers. The regimental farriers immediately commenced to shoe, and remove the shoes of those already shod, where necessary, this work being completed as far as possible by the evening of the 21st. This, I consider, greatly redounds to the credit of Farrier-Major Short (since dead) and the regimental farriers, shoeing smiths, and assistants. All had to work very hard under most trying circumstances, the sun being very powerful during the day, and shelter unobtainable.

6. The regiment, with the exception of C. Troop, had marched from Wady Halfa by the 22nd. Sufficient shoes and nails for the 100 horses supposed to be marching in charge of E Troop from Assouan, were returned to store for them on arrival. The regimental field veterinary medicine chests and forge were sent by rail to Sarra station with the baggage, sufficient medicines being carried by each troop farrier to last until arrival at Sarra.

7. The horses taken over, though small, went through the campaign in excellent condition, considering the difficulty of forage and the weight to carry, and in crossing the desert between Korti and Matammeh they were at one time over 50 hours without water and very badly fed. Many returned from Matammeh with very bad sore backs. These were mostly cases of long standing injuries caused in former marches, large surfaces of skin having been destroyed, but not sloughed away. The cause was found to be the loop sewn on the girth strap, which was towards the body instead of towards the flap of the saddle (the saddlery was also taken over with the horses). This was altered in all the saddles; and no fresh cases occurred. In the march between Wady Halfa and Korti camp, comparatively few cases of any kind were reported, and the march of the Headquarters having occupied the days between the 22nd November and the 20th December, one day's halt at Absarat on the 4th November, one day opposite Dongola on the 9th. The 13th, 14th, and 15th were occupied in crossing the river at a camp, Shabadood, about three miles beyond Handak. No further halts were made. At times the track led over rocky mountains, and it was fortunate that the horses were well shod; at others, the track passed through sand; but at times the ground was good, and allowing of much brisker motion, though most of the distance was done at the walk. To save the horses as much as possible, the men were made to dismount and walk short distances. The resources of the country, with regard to forage, will be treated of in a later paragraph.

8. At Korti, soon after arrival, one horse (G 70) died of enteritis. A case of farcy, and one of purpura-hæmorrhagica also occurred. The last two cases were imme-

diately destroyed, and no further symptoms of farcy or glanders appeared amongst the horses during the period I was in veterinary charge. These horses, I may state, had constantly suffered from glanders and farcy, and no doubt the march had something to do with the development of this single case.

9. At Korti, owing to the non-arrival of other Veterinary Officers, I was requested by the late Major-General Stewart to give up medicines for the various camel corps, and also to attend the camels. Having only taken a sufficiency of medicine for the use of the 19th Hussars, I at first objected to give up my medicines for camels until the General decided I must do so, and that he would take all responsibility for the horses afterwards being without. I subsequently was able to obtain an unit box from Captain Maxwell, who had very few camels, and handed it over to the officer commanding the Mounted Infantry, and also a tin of McDougal's sheep dip I had was handed over for use of the Guards Camels Corps. Veterinary Surgeon, 1st Class, C. Phillips, shortly afterwards arrived, bringing a quantity of unit boxes and other stores, and was able to supply Veterinary Surgeons Bennett and Beech, who had also arrived, and took over charge of the camels. Before passing, I wish to testify to the excellent qualities of McDougal's "dip," as a dressing for wounds. Made into a weak solution with water, it was applied to the severe galls on the camels, by means of cotton obtained in the district. When time was allowed, and attention paid to cleanliness, wounds commenced to rapidly heal; but owing to the necessity for working all the camels, this was almost impossible, as the majority of them had saddle injuries.

10. The regiment at Korti became divided into three divisions, one proceeding with the River Column, one across the Desert, and one remaining at Korti to become the escort of Lord Wolseley, when he should cross the desert. This division was not required for this duty, although twice held in readiness to proceed. I was left with this division. E. Troop was still at Wady Halfa, and various other stations. The squadron proceeding up the river because almost destitute of shoes and nails, only a few sets being procurable at Korti, and our stock being exhausted in sharing those remaining before the regiment was divided. The horses of this division consequently returned to Korti almost shoeless, and with many horses foot-sore. The constant marching to and fro, over rocky ground, will account for the excessive wear. Constant applications were made for further supplies of shoes, and on the march up the Officer Commanding had sent in an estimate for shoes and nails, etc., that would be required per month for the use of the regiment. Not, however, till March, 1885, could any be obtained, and then only sufficient to partially shoe the horses, so that they might march to the various summer quarters. The horses of the Desert Column returned very much debilitated, owing to the great privations they had undergone, and the very hard work they had performed. Many horses either died or had to be destroyed for debility on the return march. Several horses were also killed in the various engagements that took place.

11. After the retreat from Matammeh, the regiment was concentrated at Korti, a part of E Troop having joined from Wady Halfa. It was, again, however, divided, to take up summer quarters at the various stations along the Nile, the Headquarters and two troops proceeding to Dongola, where they were afterwards joined by the remainder of E Troop. This troop had been performing transport duty at various stations. Applications were again made for shoes and nails, this being a good opportunity to get the whole regiment thoroughly shod, in case they were required to suddenly march. But owing to the necessity of getting all the clothing for the men forwarded to the various stations before the

Nile became at its lowest and preventing navigation, the transport of other stores was delayed. In April 100 sets of shoes were obtained, with a sufficiency of nails. I immediately ordered the two farriers to convert all the hind shoes into fore, and then equally divided the 200 pairs thus obtained of fore shoes between the various troops, that the worst cases of each might be shod up, at least, on the front feet.

12. Besides the regimental shoeing, farriers were required also to shoe staff horses, and a number of horses that were still in charge of the Egyptian Army. (At one time one shoeing-smith was detached for staff duty). This, of course, tended to lessen the supply of shoes available for the use of the regiment.

13. A few remounts were purchased from Officers at Dongola, Shabadood, and Korti, and a number of horses also were handed over from Lord Wolseley's Egyptian escort, and some that Major Grenfell had brought up to Korti on special duty. There were no suitable remounts to be obtained from native sources between Wady Halfa and Korti Camp. At Dongola there are a few horses, but the natives prefer to keep them. Horses at other places were small and badly shaped.

14. With reference to forage for the horses, the Commissariat, where possible, supplied barley or dhourra, and on the march, where it was thus obtainable, two or three days' rations were carried on camels. At some few places the Officer commanding was able to purchase barley, but in no great quantities. Dhourra, however, could be bought at most stations, depending on the amount of cultivated ground along the river banks. At some places not even a few stalks of the dhourra could be obtained without pressure on the natives, the supply being so scanty and all the growth being required for the native cattle. At some stations we were able to obtain either green or dried dhourra straw (wheat and barley), and green beans. At Matammeh the horses existed for some time on this green bean foliage alone. On the whole, it will be seen that no dependence can be placed on the local production. At Ajadeh, Argot Island, Dongola, Shabadood and Korti, the largest supplies were obtainable; also at a bend of the river beyond Kibar, some excellent barley was obtained.

15. The previous history of the horses should be taken into consideration, to account also for the debility occurring in the Desert Column, for it has been said that these horses were so exhausted that at one time they were useless. Most of them had been through the former Suakin Campaign, and many were even the remains of the Egyptian cavalry horses of the 1882 campaign.

16. There were a few mules attached to the regiment, and these animals seemed to stand the climate very well indeed. They were used for carrying the cooking pots and baggage necessary to march with the various detachments, the camel transport generally starting earlier and arriving rather later in camp.

17. With reference to camels, I was not constantly in charge of them, except those required for regimental transport. At various times I was asked for opinions concerning them, and at Korti and Dongola had various charges. There is no doubt that the strength of the camel was much over-rated and taxed. He was loaded and expected to carry much more weight than should have been the case. This was specially noticed after having seen the amounts carried between Wady Halfa and Korti, and comparing them with the loads and weight carried by the native friendly tribes between Korti and the Desert Wells. The estimate of weight by the soldiers seemed at times very vague, more often 600 or 700lb being loaded than 400lb. The saddle for the camel should, in my opinion, be very differently constructed; more attention should be paid to the natural conformation of the animal. The lumbar region was not "fitted" at all, the transverse processes of the verte-

bræ in an enormous number of animals becoming diseased or broken, and very large galls existing there, rendering the animals either useless, or resulting in septicæmia, or pyæmia, and death. Again, various sizes of saddles should be kept, so that a small camel should not be obliged to wear a large saddle, as was the case when the Light Division of the Camel Corps had to perform transport duty, where the part about the hips and sacral region became much damaged. The arch of the ribs was also a great seat for saddle galls, some being frightfully severe. Abscesses were constantly forming, and owing to their not being operated on, often became vast open wounds, the skin being completely destroyed; on removal of the saddle patches of the skin would be found adhering to the lining pads. The work of the campaign being so heavy all camels had to be used, though many were unfit to work owing to severe wounds and their general bad condition; the result being that many of them that died were found to have suffered from blood poisoning, with the accompanying fever—they marching on until they dropped and died.

The camel being an extremely nervous animal in temperament, often came in for abuse and brutal treatment from his various attendants; one case I saw of the jaw being fractured by a blow, the animal having to be destroyed as useless for further service.

The practice of tying one camel to the one before him on the march, and in his turn to the one behind, should be discountenanced, it leading to injuries to the tail and jaws, and oftentimes a willing or strong camel having to drag a tired or debilitated one. The tribesmen doing transport work with their own camels always allowed them to travel free. The necessity for keeping the camels tied on picket lines was, no doubt, to a great extent the cause of much of the skin disease that existed—the camel, for his general health, requiring to roam about and graze at will. The difference of management was easily noticeable among the camels of the friendly tribes, they being free from skin disease and galls, and in much better condition than the Government camels. Of course, these camels had not been subject to the long and trying march up the country the Government ones had. Again, with regard to watering; there seemed to exist an opinion that as the camel was required to go long distances and periods without water, he should be constantly practised in going without. This I consider a great fallacy: he should be allowed to drink whenever opportunities occur. If the camel is made to travel long distances without water, he has to suffer afterwards. He can certainly travel long periods without water, owing, in my opinion, entirely to the size of the rumen; but so can cattle, as was seen when the contractor of meat drove some bullocks from Korti to the Gakdul Wells, and beyond, without water. The camel, no doubt, like all other ruminants, requires plenty of water, and if he is kept without it he suffers sooner or later from the deprivation. I believe that, but for the difference in the arrangement of the foot, the bullock would travel as long as the camel, provided he was accustomed to travel without water.

Great patience should be exercised in watering camels; they will often not drink before the sun rises or after sunset, and many require a long time allowed them, being very shy.

The camel seems an animal very susceptible to paralysis, several cases of which I saw. Concerning the diseases that generally occurred, I leave their consideration to those Veterinary Officers who were constantly attending camels.

18. The animal chiefly depended upon by natives, besides the camel, is the donkey. Great numbers exist all through Upper Egypt, and the provinces as far as we went; he is active, strong, and able to carry a heavy load. I consider him a most useful animal, and he might, perhaps, have been utilised with benefit to a

much greater extent during the recent operations up the Nile.

19. There is no doubt that the number of camels employed was far too small at the first, which was probably owing to the difficulty of feeding a larger number; but, providing that forage could have been obtained, I believe it would have been more economical to have purchased greater numbers.

Before proceeding up the Nile, being in charge of the veterinary medicines, I had to prepare the first portion of the veterinary unit boxes, some 60 odd in number, and also to prepare and pack the cases of carbolic oil; to perform this duty I had to obtain the services of the late Farrier-Major Short.

In cases of expeditions similar to that up the Nile, a more portable form of forge would be most useful; so that when a Cavalry regiment became so much divided, each division should be in possession of one, and so be independent. I have, etc.,

S. M. SMITH, Veterinary Surgeon,

Army Veterinary Department.

London, 15th September, 1885.

LIVERPOOL UNIVERSITY VETERINARY MEDICAL SOCIETY.

A general meeting was held at the University on Friday, June 16. Present: Messrs. J. T. Share-Jones, President; W. Woods, Wigan; J. B. Wolstenholme, G. H. Locke, Manchester; Dr. Annett, D. C. Matheson, H. Sumner, F. Jones, W. Quiggin, and A. Richardson, Liverpool; Hewetson, Southport; Ball, Ormskirk, Ward, Little Sutton; Dobie, Birkenhead; and W. J. Fletcher, Wrexham.

Apologies for non-attendance were received from Sir Robert Boyce, Messrs. S. Jackson, E. Faulkner, A. Taylor, J. Storrar, P. Carter, R. Hughes, and H. Holroyd.

The minutes of the previous meeting were read and confirmed.

Mr. FRANK WARBURTON, M.R.C.V.S., was nominated for membership: Proposed by Mr. F. Jones, seconded by A. Richardson.

The proposed rules for the reconstituted N.V.A. were considered and approved subject to amendment to Rule 2, Section 2, to read "for the discussion of subjects of veterinary interest," and Rule 8 to read following Agricultural Society—"or any ordinary member of any existing Veterinary Society." The object of this amendment being to permit members of the medical profession who are members of existing Veterinary Societies to become members of the N.V.A.

A letter from W. Watson Rutherford, M.P., was read expressing regret at his unavoidable absence and advocating increased Government assistance for veterinary work.

PRESIDENTIAL ADDRESS.

JOHN T. SHARE-JONES, F.R.C.V.S., M.S.

In the first place I must offer my thanks for the honour you have conferred upon me in electing me President of this Society for the coming year. In accepting the office I think I may claim a fair acquaintance with the ups and downs of the working of a Society of this kind, for for some years it was my privilege to occupy the post of Secretary, and that is the office which above all reveals the many difficulties which have to be overcome to ensure what may be termed a successful year.

I presume the primary object of all our societies is to promote the welfare of the profession to which we

belong, and to increase our utility to that greater community of which we form a small part. Thus we discuss professional and topical subjects, and at times forward recommendations as the result of such discussions to those quarters where they might take effect. We are in effect a kind of guiding hand, and although we have no authoritative official status there is no doubt that our work produces, though slowly nevertheless surely, beneficial results, and this indicates the necessity for a careful sifting of all the material brought before us.

There are so many subjects which present themselves when considering the question of a presidential address that much difficulty is experienced in making a selection. However, I propose dealing briefly with the question of the veterinary surgeon and the public.

One of the greatest questions with which the profession will be confronted in the near future will be the modification and, if necessary, amplification of its Educational curriculum to meet the increased requirements which will be demanded in connection with the great question of Public Health. This subject is at present before the country in a light such as it has never been before. The public are being educated rapidly on its economic side, and the lay mind is easily grasping the fact that it is a matter which has the greatest bearing upon the nation's welfare.

The subject is no longer regarded from the point of view which is mainly dominated by sentiment, but is being seriously taken up by the hard-headed business men, who are appreciating its far-reaching effects upon our trade and commerce, and the immense drain upon the ratepayers of this country which our laxity in dealing with preventable disease entails. Education in this respect is progressing rapidly. The question is now placed alongside such great questions as national education, our Tariff system, and so on, on our political platform, which with its faults remains the greatest of our educative forces, for it reaches thousands of our people which no other educative influence affects. One has only to mention on a public platform the fact that one out of every three persons engaged in occupations who die between the ages of 15 and 65 is killed by tuberculosis, and draw attention to the number of applications which are made as a result to our Boards of Guardians for relief for the widows and orphans of the deceased out of public funds, and the audience will immediately see the economic value of eradicating this disease. We have in Wales an educative and preventive campaign against tuberculosis. It is our National Memorial to King Edward, and has been initiated and is carried on by voluntary effort. In this campaign it has been my privilege to speak on several occasions, and what struck me more than anything else was the ready manner in which the people appreciate the intimate relationship existing between the life of man and the lower animals—particularly the domesticated animals which man has selected to live around him. To the intercommunicability of disease between the various species including man, and the risk which man runs by infection from the lower animals the public are now becoming enlightened, and the time will shortly arrive when through their duly elected representatives the people will assuredly demand that comprehensive dealing with this question which other great national subjects receive.

This, then, is our opportunity to show our utility to the community. Preventive medicine is the medicine of the future. No longer are practitioners of human and veterinary medicine regarded in the light of men possessed of mysterious secrets, handed down from generation to generation in Latin prescriptions. Their skill in operative surgery, and ingenuity in preventing disease are what are now respected. We have our part to play, and this part is by no means the least important.

As a young and small profession, I fear we are not public-spirited enough. We seem to be waiting for some good Samaritan to offer the hand which will raise us and keep us in an exalted position amongst the learned professions—a hand which never seems to appear.

Like all other bodies of men, our first duty is to be of service to the community to which we belong. The administration of public affairs demands the voluntary services of men drawn, if possible, from every section. These men give their time and labour in the majority of cases cheerfully. To be placed on the Bench and to receive occasional invitations to public functions are but a very inadequate recompense, and the public man gets little direct return for the self denial which he is called upon to make. Ample repayment comes, however, in an indirect manner, which few seem to appreciate. The presence of a member on a public administrative body calls attention to the profession or business to which he belongs—it is a kind of natural advertisement, and if he should display ability, then not only is he appreciated at his true value as a man, but that appreciation is extended to the section to which he belongs. How useful it is to have a member of such a profession or line of business on our Board or Council? is a phrase of every day use. The adaptability of the various members to the different branches of work is plainly in evidence when the members of Committees are being elected, and just as the surveyor, builder, or engineer finds a seat on the Building Bye-laws or Highways Committee, and the educationalist on the Education Committee, and so on, so do the practitioners of human and veterinary medicine naturally gravitate to the Health Committee. Then the opinion of those whose work is most closely allied to the matter in hand receives deference, and, speaking generally, the affairs are administered by the Board and Councils as a whole in accordance with the opinions expressed and advice given in Committee by those who may possess expert and technical knowledge.

It would be well for us as a profession to ask ourselves the question, Do we do our duty by our fellow men in this respect? I am afraid there would only be one answer, for I know of no profession or line of business which is so poorly represented as we are. There are gentlemen of my acquaintance who would ornament a seat on any public body. The public suffer through their withholding their services, and the profession loses one of the most potent factors which elevate any profession in the public eye, for the public are kept in a state of ignorance as to the real value of our work.

To me the peculiar appointments frequently made, and extraordinary actions often taken when matters appertaining to our work are concerned, are in no way surprising. The steps are taken in the dark, and there is a lack of guidance from a source which the people have every right to expect. The highest degree of efficiency in administration is only attained when our public bodies are representative, as far as possible, of every section of the community. To take our fair share in the burden of public administrative work appeals to me as the most legitimate and generally accepted method of enlisting public sympathy towards our own work.

The great branch of public health work, which we claim to represent, will certainly be dealt with. The rapid popular spread of the great science of economics will demand it, if all else fails. Whether it will be allocated to us as a right or not rests in a great measure with ourselves and the part which we are prepared to play in the game of life generally. It will not be for us, any more than it will be for the medical men, sanitary inspectors, butchers, or farmers to say into whose hands the various branches of the work shall be committed.

That is a right possessed by the people themselves, and they will exercise it through their own representatives.

Then our further duty lies in rendering ourselves highly efficient in order that the public may get a just return for the funds which they will be called upon to subscribe. If we are called upon we must give them of our best. To attain this object there should be complete sympathy and co-operation between the educational centres and those engaged therein and their brethren in practice. The ploughman in the field is as essential to the welfare of the farm as the cowman in the yard. Practitioners have opportunities for gauging public opinion and estimating public requirements which render their advice and help to those engaged in the schools invaluable. On the other hand, the schools with their museums, laboratories, dissecting rooms, and so on, I think I can say with fairness are centres to which the practitioner can look for assistance in unravelling those knotty problems with which he is so frequently confronted. Our interests are practically one, our object the same—the uplifting of our profession, and the enhancement of the utility of our work. If we advance we do so as a whole and bound together by reciprocal sympathy and support.

We need go no further than the institution in which we are now meeting to see how this mutual help and support pervades other branches. Take the broadest case. To the children of Liverpool citizens who have been overtaken by misfortune this University makes grants to assist them to enter one or other of the professions. On the other hand, the citizens of Liverpool make an annual grant to the University out of its public funds. A reference to the University Calendar will show that most of the professions which are here represented have linked themselves to the institution, in that they have instituted scholarships, both undergraduate and post-graduate, have assisted in the foundation of chairs, etc., with the result that they have secured a permanent association with the University, and have acquired the right to assist in indicating the lines upon which the work shall be carried on and degrees granted. Moreover, through their graduates, each of these professions becomes part and parcel of the University, and the solid foundation upon which their relationship is based will maintain this in perpetuity.

What is our position? The history of University veterinary education in America reads like a drama. Years ago the few with most advanced views saw the advantages of being associated with the Universities. Schools were attached to them in a kind of semi-detached fashion. But they were built on the sands, and one after another fell from financial starvation. Then came a great revival. The profession recognised the fact that it was part of a great community, and that it was a contributor to the public funds. The veterinarians saw that, as a section of the people, they had a duty to perform to themselves and that was to secure the benefits and advantages which were conferred upon other branches of learning through the medium of the Universities—the channels through which public funds for the purpose of higher education were disbursed. What is the result? Through enthusiastic and complete co-operation they have become an integral part of the University, for there is scarcely a University of repute in America which is without a properly endowed veterinary school, and which does not grant veterinary degrees admitting veterinary students as members of the University. Their foundation is now upon the rock, and the manner in which the work done in the schools is linked up (associated with) to the commercial pursuits of the nation in the foundation of the numerous bureaux of animal industry and experimental stations is ample testimony to the great national asset which they have now become.

Australia has followed suit. The University of Melbourne has its State-aided veterinary school, and grants veterinary degrees. But what of Britain? Well, it is always said that she moves slowly. She has certainly moved with deliberation in our case. But as I said at the outset, it is my firm conviction we have ourselves to reproach in great measure.

I don't know, but it seems to me that there is a double basis for granting a degree and conferring University benefits and recognition on a profession, one is the amount of genuine enthusiasm and public spirit displayed by that profession towards such a project. The other is the field for research work in problems, the solution of which would benefit man, which the work of the profession can offer. Well, as to the first point, we can do much. If money is required we should be prepared to contribute our share as we can afford. We want more Dicks and McCallums to stimulate support from others outside the profession.

As to the second point I have no doubt. Whilst the advocates of the richly endowed pure science who disdain applied knowledge, are searching about, frequently in vain, for problems to solve, whilst they are attempting to gather a harvest from a soil which has been tilled and tilled until in many cases it is now almost barren, we have a whole territory of practically virgin soil to offer. Start a research worker in any of our subjects and he will be positively amazed at the amount of work to be done. His difficulty will be not to find a problem but which problem to deal with first. Here is a soil the tilling of which will bring forth a fruitful harvest—a harvest the garnering of which mankind awaits.

Yes, on this second point our claim is good for we have an area for research to offer which for the possibilities of fruitful results is second to none. Yet there is not a worker in this field in any veterinary school in this country whose post is properly endowed for the purposes of research. At present, so far as research work is concerned, we are like labourers endeavouring to harvest a field of hay in their by dodging the showers in the evenings. Results cannot be expected unless our workers have an equal chance with those in other branches.

London University grants a degree in Science. Our Edinburgh *confères* are moving to get a Veterinary Degree. From the bottom of my heart I hope they will succeed. Whether the University of Liverpool will grant one rests to a great extent upon the members of our profession in Lancashire (yes, the first day I came to Liverpool a member of our profession speaking with pride, said that when Lancashire set her hands to the plough she never looked back), the men of Yorkshire, Cheshire, and Wales.

The securing of University degrees by all our Veterinary Schools will bring with it power. It will attract labourers into our field of research, and will secure for our profession an adequate share of those public funds for educational and research work which are at present being diverted into other channels. It will raise the value of the professional stock in this country, and we shall become a much greater national asset. Our repayment for any effort we put forth will be tenfold. If they are only granted to holders of the Diploma of the R.C.V.S., then will the one portal system and the power of our own governing body be maintained.

Let us for a moment examine superficially our present curriculum and see how far it meets the demands which are now, and those that will in the near future, I hope, be made upon us.

Taking all the subjects, from the preliminary examination to the final, they may be placed into two categories, namely, those which are studied with the object of developing the mental faculties, and those which have a direct and particular application to the work which our license entitles us to practice. Now

we are drifting daily away from the æsthetic aspect of knowledge and more towards its utilitarian side. This is so in our system of elementary education as is evident in the introduction into the curriculum of such subjects as domestic economy, woodwork, cookery, etc., subjects which not only develop the faculties of perception, but have a direct application to matters of after, everyday life.

With regard to the first category, the preliminary subjects, since we demand a knowledge of these as an indication of mental training and capacity—an indication that the mind has received that preparation which renders it suitable for the reception of the particular knowledge which is to follow—then it necessarily follows that there should be some uniformity in the standard demanded. Judging from the predilection which students have for certain qualifying examinations, it strikes me that there is room for much improvement here, and that the standard set up by the various examining bodies whose certificates we accept is not an equitable one.

The subjects in the second category are presumably taken during the four years intramural course. Considering the immense ground to be covered this period is very short, and the time may soon arrive when an extension will be necessary if our men are to be adequately equipped for public service. At the same time there is much work done, particularly in the first year, which, strictly speaking, belongs to preliminary study, and the applied portions of which are recapitulated later. When the eyes of most men are focussed upon the three score and ten years which they have to run, it is time to avoid anything in the nature of unnecessary overlapping. Utility should be our watchword, and application our instrument. The amount of information conveyed during our course is most extensive. But it seems to me to be somewhat heterogenous, and that we do not make the most of the subjects—we do not direct sufficient attention towards welding the information into a complete whole. Some years ago I called attention in a paper read at Rhyl to a lack of connection between anatomy and surgery, and advocated the institution of a course in surgical anatomy to link up thought and show the logical connection between the subjects. In two of our schools, to my knowledge, I am glad to say such a course is now given.

Time will not permit me to go over the whole course. My esteemed predecessor showed last year how the veterinary surgeon could enhance his value to his clients by the application of dietetics; but there is one branch of work in which I have no hesitation in stating that our training is wholly inadequate, I refer to the inspection of meat. I speak primarily as a veterinary surgeon, but one has an intimate knowledge of farming and butchering. The veterinary surgeon is the man to do this work. In his course are the subjects which can be applied to it with the greatest advantage. But unfortunately they are not applied. We lay a glorious foundation and upon it erect a superstructure of wood without even pinning it down. It is a structure which does not appeal to the architectural critics who cannot see the foundation. Meat inspection is not a subject for a single short course. Let us build an edifice in conformity with the foundation by giving a number of short courses, specially applying the subjects which form the foundation to the actual practice of the work—applied clinical instruction, applied pathology and bacteriology, applied anatomy, and so on. We should deal similarly with our whole curriculum, then we shall be giving that comprehensive interpretation to the subjects which their great importance indicates will be required of those who will take charge of the work in this what has been termed "The Dawn of the Health Age."

Mr. J. B. WOLSTENHOLME in rising to move a very hearty vote of thanks to the President for his address, said: As we get older we were inclined to view things from different standpoints. Regarding the suggestions made by the President respecting modification of our present curriculum, he felt much depended upon what the members of the profession and what the nation proposes a veterinary surgeon shall be. If we were to be worthy of the name of a profession and take our stand side by side with the sister profession we must make such progress as to entitle us to this claim. Any such progress would of necessity involve lengthening the curriculum to five years. This may seem a somewhat alarming suggestion in face of a general decline in the number of students entering our schools and the rapid substitution of mechanical haulage for horse traction. But thunderbolts always came in summer time! At the present moment the medical profession is seething with unrest through the action of one of our Statesmen. The position of the medical practitioner has to be faced from different points of view, but ultimately the nation will determine the nature of the position he shall occupy. We are all children in the great national family, and there is a growing tendency on the part of the State to assume its paternal responsibility for our general well being. There seems reason to anticipate that the future of the medical profession will consist largely of service such as that of policing, and fighting fire. Preventive medicine and applied hygiene are becoming increasingly important.

If the members of our great national family render that service in the right spirit, and not in that of German officialdom, we have nothing to fear, and as there is such close association between animal and human diseases, and the general work of the veterinary surgeon and public health we, as a profession, must ultimately take our place side by side with our medical brethren. This being so our prospects are most hopeful.

Naturally the question arises as to how far the nation can institute service for all our members. This, fortunately, is receiving the attention of official bodies throughout the country. What we want is not less but more officialdom in veterinary matters. There must be a general increase in the appointment of whole-time officials and a general system of decentralisation in the administration of Animal Diseases Acts.

He welcomed the President's reference to the inadequacy of the financial facilities offered to our profession for research work. No department of science offers such a wide field for interesting and profitable research. There was every reason to believe that work in this direction would assist largely in the solution of many pathological problems. This class of work is becoming increasingly necessary. He instanced the research in matters relating to pigmentation, melanotic tumours, in relation of loss of colour of hair, how fats are taken up from the alimentary canal and distributed, etc. It was not for lack of brains—of efficiency—that these problems were not solved, but for lack of opportunities of research. An ordinary practitioner cannot possibly do much research work, and up to the present neither State or public aid had been forthcoming for these purposes.

Mr. W. Woods seconded the vote of thanks. In doing so he wished to associate himself with the ideas expressed by the mover. He felt that the President had introduced matters of vital importance to the profession, and was glad to think through the veterinary press they would be brought before the profession as a whole. He regretted that the occasion did not seem the most suitable to enter into a further consideration of the address, and expressed the hope that at some future time the suggestions made would receive the careful examination their importance demanded.

On putting the motion to the meeting it was carried unanimously with acclamation.

The PRESIDENT briefly replied, thanking the meeting for their expression of thanks, and said he would welcome a further discussion on his address should the Society so determine.

ANNUAL DINNER.

The dinner was held at the University Club in the evening. Mr. Jno. T. Share-Jones, the president, occupied the chair, the principal guest being Mr. E. T. John, M.P. Others present were Professors Annett and Buchanan, Dr. Mussen, Messrs. Bull, Ormskirk; Marsden, Fletcher, Wrexham; Woods, Wigan; Sumner, Shepherd, Frank Jones, Arnold Richardson, Liverpool; Hewetson, Southport; Wolstenholme, Manchester, etc.

Mr. BRITTELBANK (President of the Lancashire Veterinary Medical Association), in proposing "The Medical Profession," said he had often been asked to come to the Liverpool Veterinary Medical Society, and if he had not done so now the Lancashire Association would have felt that he was breaking a promise he had given that he would visit them when an opportunity presented itself. As to the medical profession, it was one that he had worked very closely with for a good many years, and he had seen a great deal of the difficulties which attended its work, particularly on the preventive medicine side. He could not help thinking as he came along from Manchester of the enormous work which had been done in this city by the Preventive Medicine Section of the University. He referred to the Tropical School. Huge tracts of country had been opened up to commerce with comparative safety as compared with the condition of affairs not so many years ago. There were many gentlemen in that city to whom we owed a great debt of gratitude, and he was quite sure as the years went by the world would realise what these gentlemen had done not alone for the public health but also for commerce, because there was, after all, a very great commercial side to this question of public health. Each life was worth a definite sum of money to the nation, and each life saved was a distinct asset, but the medical profession were a national asset, and no doubt a very prominent national asset. At present there was a considerable agitation going on, and they sincerely wished them a happy issue out of their afflictions. (Hear, hear.) Speaking for the veterinary profession, a great many of them regarded themselves as a sort of younger branch of the general profession of medicine. Their aims were the same—the alleviation of suffering—and they looked forward with pleasure to the aid which they might expect from the medical profession as the years went by. (Hear, hear.)

Professor ANNETT, in replying, referred to the serious illness of Sir Rubert Boyce, to whom, he said, they owed almost entirely the existence of their Society. Why he should have been asked to respond to that toast he did not know, for the whole length of his career as a medical practitioner stretched over a vast period of two weeks. (Laughter.) For two weeks he was a medical practitioner—for the rest he would not say he was a veterinary surgeon but a veterinarian. Almost immediately after he obtained his licence to work he had the good fortune to be presented with a travelling 1851 scholarship, and after that he passed some six months study with Sir John M'Fadyean in the London Veterinary School, and from thence he travelled on the Continent. He went to Berlin, and there was associated with Professor Schütz, professor of pathology in the veterinary school, and with Professor Koch, of the same institution in Berlin, an institution whose members studied both the human and veterinary science, in fact the study of those two sciences should not be separated. Medical science could hardly exist without veterinarians. It had been his pleasure, almost his ambition, through-

out the 15 years in which he had been more or less associated with veterinary matters in this city, to foster as much as possible a good feeling between the two professions. (Hear, hear.) He looked upon himself as a sort of intermediary between the two. He had hoped that the progress in that direction would have been greater, and he would like to offer every assistance to members of the veterinary profession in joining with the members of the sister profession in cultivating as far as possible what one should call the science of medicine rather than the medical science—that science which underlies both professions, and by means of which they should bring about benefits to mankind, benefits to the country, the city, and themselves. (Applause.)

Dr. MUSSEN proposed the toast of "The Veterinary Profession." He remarked that ever since the veterinary school was established seven or eight years ago he had had the privilege of being one of its staff. Mr. Brittlebank had alluded to the help which the two professions gave each other. He cordially endorsed that. In the department over which the Medical Officer of Health presided they had had nothing but the greatest help and assistance in anything which had been proposed with a Public Health object. He thought the classes relating to tuberculosis had been a success, to a large extent, owing to the way in which the veterinary profession had assisted them. The medical profession and the veterinary profession had a great deal in common. It was a great pleasure to be connected with the profession, it was so progressive. A young profession was always interesting, it had got possibilities in front of it. The medical profession was hoping to go ahead, too, but he thought their profession was to a large extent dependent on how they were helped by the veterinary profession. (Hear, hear.)

Mr. HENRY SUMNER, replying, paid a tribute to the work accomplished by Sir Rubert Boyce as being the means of improving the education and thereby the status of the veterinary surgeon, that their members should be put on equal lines with the other learned professions. Their profession was a young one, it was a small one, and it was going through a most critical period of its life. The governing body had ceased to have sufficient funds to carry out its duties in a proper and efficient manner. Those funds hitherto had been gained by the profits of its examinations. Now, through various agencies, the students of their schools were diminishing, through the increase of knowledge and the necessity for a wider field of examinations, the cost of examinations was increasing, and instead of a profit from examinations the governing body sometimes made a loss. The funds of the College were insufficient, only quite a nominal sum. The assured income was about £140 or £150, consequently it had been necessary for them to apply to Parliament for powers to charge an annual registration fee. Hitherto they had been a free profession—after they had gained their license to practice there had been no further call for any subscription. He believed that that very night the Veterinary Surgeons' Amendment Bill was before the House of Commons, and if the opposition was such that it was rejected the position of the Royal College would be one of acuteness—one of great seriousness. He said that feelingly, because they as a profession had prided themselves that they had one important system—they had one license which had been obtained through a good deal of stress and storm and very many difficulties. Now it was apparent that if they did not get this increase of funds the time had come when they could no longer claim the right, and the sole right, to license veterinary surgeons within these realms. That, unfortunately, was a matter upon which the profession was not absolutely unanimous. There was a small number who still resisted the change, and who still objected to giving power for charging for registration. Considering the lot of the veteri-

nary practitioner it would, he said, perhaps undergo a very considerable amount of change. The time had come when they should not be merely repairers of the lower animals, but when the public would expect them, as experts in animal diseases, to be able to advise local public bodies both in the administration of the local Acts pertaining to animal diseases, but also to be at the right hand of the medical officer of health to say which was and which was not flesh that was fit for human consumption. That was one branch; another was the administrative one. They knew that the Animals Diseases Acts were administered from one central authority, the Veterinary Department of the Board of Agriculture, and they were administered, probably many of them thought, by a considerable shortage of qualified veterinary surgeons. He thought the probability was that within a few years the profession would be called upon to take up many of those administrative duties which were now given to gentlemen who were not educated as veterinary surgeons although they might be estimable gentlemen in the way of enforcing bye-laws and regulations. Another point considered at their county meeting at Manchester was as to whether the time had not come for passing a resolution approving of the decentralisation of the veterinary work, and if it had arrived that the County Councils should be the administrative bodies, and that they should employ a considerable number of veterinary surgeons as whole-time servants. These were things which showed that their vocation was changing, which showed the examining body in London that it was necessary the curriculum should be brought up-to-date, and that their new men should be fitted to hold any of the posts which in the future would come within their reach. Sir Rubert Boyce upon a memorable occasion once said "It is for you to capture the posts—the administrative posts." He (Mr. Sumner) said it was for them to be fitted to hold the posts when they captured them. (Hear, hear). As to the fitness of the veterinary surgeon for public offices they looked with pleasure upon the success which had attended the veterinary department of the Corporation of Liverpool; they had done some fine work in Manchester, so they had not failed to show the public that they were fitted for those position which in the future might come their way.

Now there was a question as what the schools were doing. The examining body was right in demanding a high standard of knowledge for the candidates who came up for their respective examinations. What were the schools doing? And what had been the influence of the coming of veterinary teaching into that University upon the teaching of other schools in Great Britain and Ireland? He thought he could say without fear of contradiction that the very fact of veterinary education becoming part and parcel of the work of the Liverpool University had had a most salutary influence upon our schools, which up to that time looked upon that effort with a not altogether friendly eye. The schools, like the parent body, wanted money, but from what source was money likely to be obtained? What was their claim upon the Government for beneficial treatment? What was their claim upon the Government that they should receive a share of that money that was expended both by the Board of Agriculture and the Board of Education? He thought they could claim that they were a necessity for the well-being of the masses—a necessity in the interests of Public Health. He thought they could claim that they were absolutely necessary to be the hand-maiden of Agriculture, so he considered they had a claim both on the Board of Agriculture and the Board of Education for some help to go on, and if possible increase the efficiency of the different schools. The Royal Veterinary College got the handsome sum of £800 a year from the Board of Agriculture. Why, then,

should not they get £400 or £500, or a sum in accordance with the number of students for the advantages which they afford. (Hear, hear).

Mr. W. Woods also responded. He said it was in 1792 that the first veterinary school was established in this country, and then a Frenchman had to be sent for to teach veterinary science here. That school owed its existence to four medical men, so that they not only owed their individual existence but their professional existence to medical men. At first the education was probably very poor, but now they could say with a certain amount of pride that the general education of a veterinary surgeon did not leave a very great deal to be wished for, seeing that they accepted no certificate but what would qualify a student for the medical profession. And they could not accept anything less, for the day had gone by for a veterinary surgeon to be an uneducated man. No one degree was higher than another so far as the licence to practice was concerned. It was not always so. He thought the unanimous feeling of the profession was that the one portal system should never be abolished until there came about a State veterinary examination. He would like to see a State examination for the medical as well as the veterinary profession; he believed it would be an advantage to the medical profession. The veterinary profession had been made use of to a certain extent by the Government in the suppression of contagious diseases, and he felt they had a great future before them in that direction. At the present time the administration of the Acts for the suppression of contagious diseases and the thinking out of the laws all came from London. It was quite easy to think that different parts of the country would require different treatment. Let them take the case of swine fever, which was on the increase, and which the Board of Agriculture had done a great deal to try to suppress, and which they were suppressing in some parts and were not in others. If that work were decentralised, if there were organised veterinary sanitary administrations of different parts of the country with Veterinary Officers of Health of counties, and if those counties were allowed to deal with contagious diseases within their own areas they would recognise some reasons why the Board was not suppressing and not stamping out contagious disease, and they would be able from their knowledge of the local conditions to enact laws subject to the Central Board in London, which would be more effective in stamping out swine fever and anthrax, which was on the increase. The cause of anthrax was probably different in different parts of the country. In some it might be imported in hides, while in others where they knew it was increasing and where there were no tanneries, it was probably imported through manures.

Mr. J. T. SHARE-JONES (the President) submitted the toast of "Our Guests." He said:—

The year 1911 would, he thought, come to be regarded as the beginning of a new era in the history of our country. We prided ourselves as being a great nation, and as such we had many valuable assets, such as our land, Navy, minerals etc., but of all, the most valuable asset of this or any nation was not its ships, nor its land, nor its minerals, but the life of its people. Men could estimate the value of most things, but no one could estimate the value of the life of a single babe. And now in 1911, for the first time in English history, the preservation of that which was most precious to our country was made the outstanding feature in our national budget. He thought he should be excused any party feeling towards this matter, and he thought further that he would be expressing the sentiments of all present when he said that they rejoiced in the fact that at last the health of the people was taking its proper place amongst the great national questions of the day. (Applause.)

Preventable disease was ravaging this country to such

an extent that economists told us the loss to the nation estimated on the basis of manual labour alone amounted to many millions of pounds. The loss of mental work could not be estimated. One disease alone—tuberculosis—was sweeping off thousands of our fellow countrymen and children every year. By it every one in three persons engaged in occupations who died between the ages of 15 and 65 was killed. They had only to attend a meeting of the local Board of Guardians to be struck by the number of applications for relief from the public funds on behalf of widows and orphans of men who had been swept away in the prime of life. Apart from the number which it killed, this disease was reducing thousands yearly from a state of comparative affluence to one of absolute dependency upon the ratepayers. Yet it could be prevented. It would naturally be asked how, and what would the veterinary surgeon do to bring this about.

Well, he read a headline in one of the local papers a week or so ago which at first gave him a bit of a fright, it was "The passing of the horse—Is the veterinary surgeon vanishing." On reading the article he found that there was no immediate cause for them to be alarmed, since it was argued that the horse was a desirable animal to keep, notwithstanding the advent of motor traction. He feared that this interpretation of the work of the veterinary surgeon as simply a doctor of horses was too common, and at once he might say that, important as this work might appear, it was certainly one of the least important of the branches of work committed to the charge of those whose duty it was to study disease as it manifested itself in the domesticated animals. It was now generally conceded by those who took an interest in the subject that the medicine which was of greatest benefit to mankind was preventive rather than curative, and there was little doubt but that during the aptly-termed health age, at the dawn of which they now stand, the efforts of practitioners would be directed on those lines.

Take for instance, again, tuberculosis. It was estimated that 30 per cent. of all adult human beings and cattle were affected by this disease in one form or another. Horses, dogs, pigs, fowl were also affected, but fortunately in lower percentage. The disease was intercommunicable and its existence in the domesticated animals are therefore a source of danger to man. Particularly was this so in regard to cattle, for man was dependent upon this species for two of his most staple food materials—meat and milk. A vigorous onslaught was about to be made on this grave disease. For this onslaught to be successful it was evident that attention must be directed to the disease not only in man but also in the domesticated animals and particularly the cow. This comprehensive view of a disease had been taken in the past with successful results. Rabies, for instance, had been driven out of our country by dealing with the human and canine species.

Now, who was to do this particular branch of preventive work. With all due respect to their estimable colleagues the engineers, into whose profession pessimists sometimes told them to transfer themselves, he did not think the public would feel quite safe in committing the vast branch of comparative medicine to which he alluded to their charge. No, so far from stating that their work was diminishing, it was his conviction that the real work of the V.S. was only now commencing, and that the public was just beginning to appreciate its value to man. (Hear, hear). Then reference had been made that the number of veterinary practitioners were decreasing. That was so. Yet, whilst other branches of science were crowded with research workers amply supported, there was a vast territory of virgin soil, with great problems awaiting solution for the benefit of mankind—a territory in which the workers were altogether

too few, and they could not be expected to produce results on the meagre support which they received.

There were some who appreciated the importance of this question. There were some who recognised the economic problem which inevitably arose if the members in a profession were allowed to decrease at a time when the public demands on that profession were increasing. They were pleased to welcome them there that night. They were pleased that night, as they were always pleased, to receive the sympathy and support of members of their sister profession. Above all, they were pleased that amongst the guests who had honoured them with their presence, was a Member of Parliament who made agricultural research in this country the main point in his maiden speech in the House of Commons, which was a speech in which a man had much at stake. He would ask them to rise and drink with him the health of their guests, and with this toast it was his great privilege to associate the name of Mr. E. T. John, M.P., a gentleman whose breadth of conception has made his name a household word in the great industrial centres of the North of England. (Applause).

Mr. JOHN, in acknowledging the toast, remarked that there was no very good reason why he would be there that night except that he had pleasure to count amongst his constituents their distinguished chairman. He thought it was to that happy fortune that he was present, and not to any knowledge of or connection that he had in any way with agriculture. However, there was this appropriateness in his being there that he did, in connection with the business with which he had been identified from his boyhood, appreciate very highly the value of technical knowledge and skill. Within the last few weeks a very capable, well informed publicist had complained of the lack of expansion of the iron and steel trade in connection with Great Britain. Some eminent and distinguished colleague of his (Mr. John's) in the business had replied that the lack of expansion was inevitable, owing really to insuperable natural difficulties. He was bound to confess there was a great deal of substance in the contention, but his own judgment was that the lack of expansion which had existed for 10 or 15 years was very largely owing to the necessity for technical education and technical knowledge and equipment, and in the second place to an exaggerated individualism, unwillingness and unreadiness, on the part of very capable men who conduct any great industry to pool their common knowledge and experience. It was a very admirable defect in many ways, and was to be found just as prominently in the conduct of a great industry like iron and steel trade as in the humbler one of tenant farming. Men naturally thought of the iron and steel trade as one of first importance, but what had impressed him very greatly was the enormous magnitude of the agricultural interests of this country—and if they would by the side of it that which was represented and cared for by their profession. Quite recently he came across a statement that the sheep breeding industry in Great Britain actually represented no less than 40 million pounds—a staggering figure, and he saw that the entire live stock of the country probably amounted in value to 180 million pounds. In fact, some years ago he noted, it was valued at 251 million pounds. Those enormous figures justified their profession taking a higher status than it at present occupied in the public mind. The meat, dead and alive, which came into the country amounted in value to close upon 40 millions of money. In addition to the financial importance of the subject, one had to recognise the responsibility to exaggerate the importance of the purity of our food and milk and the necessity of sound meat. In addition, there was always connected with agriculture the fact that the population which gained its daily bread by agricultural operations existed under conditions that were peculiarly favourable

to physical and, he believed, moral and spiritual growth. There could be little question that the conditions which surround rural life were more favourable to the development of mankind in every sense than the much less desirable conditions which exist in our great towns. He had been pressing, as had been referred to by the chairman, to the necessity for greater grants—or greater financial assistance—to the development of agriculture. He occupied a position a little different to that of traditional Liberalism, though he did not say that it was different to that position occupied by a great number of Liberals to-day. The traditional position was that it was desirable and proper to leave trade to take care of itself—a policy of non-interference, of letting well alone. He recognised on the other hand there were a great many things which a State could properly do for commerce, and which were absolutely impracticable to private individual enterprise. (Applause.) In Liverpool they were advocating and carrying forward successfully, he understood, the development of this principle in stimulating the production of cotton within the limits of the Empire. That did not directly affect the iron works of the North or agriculture, but he did not grudge in any way whatever contributions the country made to such an admirable project, and in the same way he approved heartily of whatever revenue and assistance the Government extended to the development of agriculture. The broad principle he took in the matter was that wherever the effect of Parliamentary interference was to stimulate production and cheapen the cost he was with them. He was afraid that where the effect was the reverse he was just as strenuously opposed to them.

What was the position, then, of Great Britain in this matter of assisting materially the development of agriculture? He found that the contributions of Great Britain were ludicrously inadequate, compared with many other European countries. The example of Germany was frequently quoted in all sorts of connections. Germany spent on the development of Agriculture no less a sum than £2,710,000, or £20 per 1,000 acres, Little Denmark spent £283,000 which was £40 per 1,000 acres; but Great Britain only spent £183,000 which was a fifteenth part of what Germany spent, and was only 47/- per 1,000 acres. The case for a more liberal treatment of agriculture had been clearly established. In addition to the financial conditions there were the very vital considerations of health. Of the question of the inter-relationship and inter-communicability of disease from animals to human beings it was impossible to exaggerate the importance. He supposed the prevalence of Tuberculosis amongst animals had a close relationship to the wider-spread existence of the ailment amongst the people. He rather gathered that the veterinary profession had during the last 10 or 15 years, or perhaps less, been conspicuously successful in dealing with animal diseases. Lord Carrington the other day said that the Board of Agriculture had succeeded in stamping out almost all the serious diseases of animals. Under those conditions, their occupation, like that of Othello, would soon be gone. (Laughter.) When they remembered the multiplicity and complexity of the ills to which bovine flesh appeared to be heir to they might very well take courage, and look forward with confidence to the future, in which there would be scope for their energies and abilities. Apparently a good deal of success was attending the efforts of the Board of Agriculture and their profession. He saw that the cases of anthrax, glanders and scab now numbered 1,062, in 1910 they were 1,592, in 1909 2,313, and in 1908 2514. So that to-day there were only 40 per cent. of what they were in 1908. On the other hand he found that they were not so fortunate in dealing with swine fever. The Board of Agriculture and the profession generally had been contending this conflict for a matter of 18 years without achieving much success. He believed that this present

year it was almost double what it was last year. In this connection he was pleased to notice that in a reassuring article upon tuberculosis in cattle, it was authoritatively stated that calves were practically free from tuberculosis. That was result which the profession had obtained, and it was very reassuring to humanity. The line he had taken mainly in this matter was to have regard to the interests of agriculture generally. He had been very anxious that everything possible should be done to increase the productivity of the land and to recognise very fully the magnitude of their part in this great industry.

He was sure they would approve of the important step taken by the United States. They were going to spend £137,000 on the inspection and guaranteeing of animals, £52,000 on the eradication of one disease of cattle alone, £16,400 on investigations in connection with animal diseases, £10,400 on co-operative experiments in breeding and feeding, and £9,900 on animal husbandry. One felt it difficult to ascertain from the Board of Agriculture exactly what they spent on research work. He had seen it stated at the very modest figure of some £600 to £900, and he thought the smaller figure was the later one.

He had had some little adventure with the Board of Agriculture himself. (Laughter.) He got some of the information he wanted, but they were unable to tell him what had been spent in America—he supposed because America was too great and too remote—they were unable to tell him what was spent upon Wales, because Wales he supposed was too small and too near. (Laughter.) However he was not singular in his inability to extract information from the Board of Agriculture. Mr. Bridgeman, on Tuesday night asked this very illuminating question, How much was spent last year out of the exchequer upon agriculture, and what proportion out of the amount was spent on salaries and officials in research and on development respectively, and how much was credited to small holdings, and the total amount spent by the State on agriculture in France, Germany, and Denmark? Mr. Lloyd George replied: I fear it would hardly be possible to determine accurately amongst many categories in national expenditure connected more or less directly with agriculture what items can be classed specifically as expenditure on agriculture. (Laughter.) That condition of things was most intolerable. That was to a very great degree characteristic of the department, they not only had a difficulty in extracting money from, but also an equal difficulty in extracting reliable and accurate information. In concluding, Mr. John said he was very glad to hear in regard to their school that they had a practical examination, and he had no doubt that this centre of Veterinary Science would accomplish very admirable work. He was quite satisfied that if Government could be induced to place greater resources at their disposal very excellent results would be achieved. (Applause.)

THE YORKSHIRE VETERINARY MEDICAL SOCIETY.

The Spring meeting was held at the Hotel Metropole, Leeds, on Friday, April 28th. The President, Mr. J. W. Lazenby, Tadcaster, presided, and amongst those present were Messrs. A. W. Mason, Samuel Wharam, Geo. C. Barber, William Crawford, H. G. Bowes, Leeds; G. E. Sampson, A. W. Noel Pillers, Sheffield; F. W. Pawlett, York; F. Hallilay, Dewsbury; M. Robinson, Barnsley; P. Deighton, Selby; Arthur Ellison, Harrogate; A. McCarmick, Hon. Treas., and J. Clarkson, Hon. Sec.

The minutes of the previous meeting, as published in *The Record*, were adopted, on the proposition of Mr. Pillers, seconded by Mr. Wharam.

Apologies for non-attendance had been received from Mr. J. A. Dixon and Mr. Schofield.

The question of subscribing to the Royal Sanitary Institute was raised. Mr. Bowes pointed out that if they intended sending a delegate to the forthcoming Congress it would be a matter of considerable expense, and the question to be considered was whether it was worth the expenditure.

Mr. WHARAM favoured the withholding of the Subscription. It was simply throwing money away, to pay it.

Mr. MASON proposed that the matter be left to the President and the Secretary to use their discretion as to joining or not.

Mr. BOWES seconded the resolution, which was carried.

The SECRETARY alluded to correspondence received in reference to the amalgamation of the Yorkshire Society with the Lancashire and Eastern Counties Societies, in regard to the coming election of the Council of the Royal College of Veterinary Surgeons. Prof. Williams had suggested they should communicate with the North Wales Society and invite them to come into the amalgamation. The North Wales Society seemed to be inclined to join with them, but were enquiring what the cost would be. The Yorkshire Society appointed a deputation to visit the Lancashire Society on the matter. However, the whole matter had now been disposed of, the Midland Society having decided the matter for themselves.

MR. PRATT'S COLLECTION.

Mr. CLARKSON said the members would remember that at their last meeting it was decided (subject to the approval of Mr. Pratt) to give the Council power to place a case, suitable for the reception of Mr. Pratt's valuable collection of horse shoes, in their General Meeting Room, in the Hotel Metropole. To this course of action Mr. Pratt was agreeable, and the management of the Hotel had acceded to their request. Mr. Pratt had expressed the wish that his collection might be taken care of, and that if the Yorkshire Society tired of the collection that it should be sent to some Veterinary College Museum. To these wishes the Council were agreeable.

Mr. WHARAM moved a resolution to the effect that the action of the Council in the matter be confirmed. This was seconded by Mr. Robinson, and agreed to.

With regard to the matter of subscriptions in arrear, the response made to the Council's application—that they should be cleared off—had been particular favourable.

Two names had been struck off the list of members. No nominations for membership had been received since their last meeting.

The resignation of Mr. J. Smith, was accepted with regret, on the proposition of Mr. Wharam, seconded by Mr. Bowes.

PROPOSED KING EDWARD VII MEMORIAL FUND.

A letter had been received by the Secretary from Mr. Shipley, of Great Yarmouth, with regard to this matter. The suggestion was that a Fund be formed, similarly as in the case of the Queen Victoria Memorial. The suggestion is that a fund be formed to provide sufficient money for a pension to one veterinary surgeon, and it was hoped that when Prof. Axe's money was at liberty a house would be provided for the pensioner as well. It was, said the Secretary, for the Yorkshire Society to decide what they would do in the matter.

Mr. MASON regarded this as a time when they might be able to do something. They knew that sooner or later the funds of the late Prof. Axe came in, and he suggested they send a donation from their Society to help the funds of the late Prof. Axe's legacy. He, Mr. Mason, proposed the sum of £5 5s. should be given to the Memorial Fund.

Asked as to the views of the Yorkshire Society's Council in the matter, Mr. Clarkson, said the Council were of the opinion that there would be a considerable

amount of difficulty in raising the necessary sum for a pension. It would mean an expenditure of £700 or £800. He personally feared that the amount necessary for anything like a decent pension was more than the profession could raise.

Mr. MASON explained that his idea was that the subscription from their Society and other Societies should be tacked on to the head funds. By this means they would perhaps be able to get together a decent amount of money.

Mr. CLARKSON said the view of the Yorkshire Council had been that it would be wise to leave the matter over until they knew what others were doing.

Mr. MASON replied that in that case he would withdraw his proposition.

Mr. WHARAM thought the question was as to whether the Memorial Fund would go through. He would like to see the Fund started with a larger sum than £5 5s.

Mr. BOWES was certain that all approved of the principle of the Memorial.

Mr. WHARAM pointed out that their existing Benevolent Institutions seemed to be so constituted that the various Institutions were not spending their money. They were simply piling it up. He welcomed any amount of money being raised for benevolent purposes for veterinary surgeons who were in need of it, but whether in the face of existing Benevolent Institutions not spending their money at present, they could raise a sufficient amount for a worthy King Edward VII. Memorial Fund he very much doubted. At the same time he was sure their Society would join with any other Society in supporting any laudable object for the purpose.

Mr. BOWES proposed, Mr. SAMPSON seconded: "That this Society heartily approves of the principle of the suggested King Edward Memorial Fund, but defers discussion on the matter until a further meeting."

The resolution was carried unanimously.

With regard to the amended rules proposed by the Committee of the National Veterinary Association, Mr. CLARKSON said the matter of these rules had been under consideration for a considerable time. The first draft was sent out some year and a half ago. The draft was amended at a meeting held in Manchester, and re-amended at a meeting held in Crewe. The scheme was then submitted to the different Societies, each of whom amended it, and the general scheme was then submitted to a Committee. The Committee sorted out the various points, and drew up a scheme to be presented to the National Association, who, on financial grounds, threw it out. Another Committee was then appointed by the National Association to consider the question of the rules, and this Committee was particularly anxious for an expression of opinion from the various Societies. Up to the present the Societies in the country had received the matter extremely well. The rules which had been altered were not numerous. Mr. Clarkson then detailed the various alterations suggested. The Yorkshire Council thought it would be wise not to make many amendments to the scheme, but to approve the scheme generally. If alterations were afterwards necessary they could be made by the National Association.

Mr. BOWES proposed that the amended rules suggested by the Committee of the National Veterinary Association be approved of. In dealing with the rules, Mr. Bowes pointed out that from the beginning it had been recognised that the crucial point was the financial question. It was impossible for Societies whose subscriptions were small to pay a large sum to the "National" for affiliation, and therefore it had been suggested that a nominal sum should be charged each member of the different societies affiliated. With regard to the proposed new title of the National Association, he did not much mind it. He knew there was some objection to

the term "Medical" being used, but it was suggested owing to the strong recommendation of the Irish Societies. Their Irish *contrères* obtained their exemption from serving on juries purely on the ground that they were medical practitioners. England was not so well provided for as Ireland or Scotland. Perhaps in time English veterinary surgeons would be afforded this privilege.

Mr. WHARAM did not see any harm in passing the rules as they had been presented to them. He seconded the proposition of Mr. Bowes. With regard to the name of the "National," he (Mr. Wharam) did not care for double barrelled names. They might just as easily put "Surgical" in the place of "Medical" and call it "Veterinary Surgical Society" or anything else. At the same time if it was an advantage to Ireland or to their profession in any part of the country to call it the National "Medical" he did not see any harm in it. He believed medical men in this country received a rebate on the Petrol Tax, and perhaps in time veterinary surgeons would receive it too. With regard to the financial part of the "National" scheme it seemed to have been carefully thought out. It would be well to get the opinion of the "profession" of the country as quickly as possible on the proposed "amended rules," and have the matter settled.

Mr. MASON enquired whether the hopes of the profession was that the proposed amended rules and alterations would increase the powers of the National Society on the lines of the British Medical Society, and bind the members in unity and compel each individual to accept his responsibility as a professional man, on the lines of the British Medical Council.

The SECRETARY replied that was the hope.

The proposition that the amended rules proposed by the Committee of the National Veterinary Association be agreed to was adopted.

SUMMER OUTING.

A suggestion had been made that the Yorkshire Society should invite the members of the Lancashire Society to join with them in a summer outing.

Mr. Bowes moved that Mr. Clarkson, their Secretary, be instructed to write to the Secretary of the Lancashire Society, and if the Lancashire members were agreeable to such an outing to arrange a suitable date and place. The second week in July might be suggested, and Clapham or the Dukeries the place proposed.

Mr. MASON seconded the resolution, which was carried.

SPECIMENS AND CASES.

Mr. WHARAM exhibited specimens of fractured navicular bone, and the hock bones of a Clydesdale mare.

No. 1. Grey Shire mare, about nine years old, 17 hands high.

History. Went lame on near fore, out at work on March 28. The animal had been working in town and the railway yards. Both fore feet were shod with leather. The shoe was removed by the foreman. A wound was found, and the foot poulticed, no nail or anything was taken out of the foot, but the leather which was soft had a corresponding hole in it to the wound.

Seen on 30th, very lame, swelled round the coronet, and up the leg to the knee, wound on sole in the direction of navicular bursa discharging blood-stained synovia.

Treatment. Discontinued the poultices. Dressed the wound with dry dressing. The swelling increased and burst inside the heel. The mare was slaughtered and the fracture found as shown.

No. 2. Bay Clydesdale mare, about 11 or 12 years old, in good condition, never been lame.

History. Went lame on April 1st whilst at work in four-wheeled waggon. Examined by me on the same day. Went on the toe, the hock was very slightly swelled. No particular pain in any part. Had shoe re-

moved and examined foot, saw her next day (she did not lie down during the night) found hock larger, lameness increased. No sign or history of any external injury. The mare was put into slings and the treatment consisted of anti-flam applications, blister, lead lotion, hot and cold water as indicated.

The hock in spite of all burst on the inside, and she was slaughtered on April 24th. I have not seen the bones until to-day they have been sent on to the hotel. I see the articular cartilage is removed in many places, but the true hock joint appears to be all right.

Mr. Bowes said he was particularly interested in the hock case. It was such a case as one got occasionally, and his experience was that one was never sure what the cause was. He had had a number of cases at comparatively rare intervals, but he had never been able to ascribe the cause of the inflamed hock. They got an intensely inflamed hock, very swollen, and the cases were generally most unsatisfactory. He thought that probably they were what would be described as a sprung hock. There seemed to be an inflammation of the joint. In course of time there was a burst out. He thought the only success he had had in cases of that kind had been with the slinging straight away, and perhaps in the early stages applying palliatives, but generally finishing up by blistering. There was one thing, and that was if the cartilages got lacerated there was, he thought, no chance. It would be interesting to know what the cause was.

Mr. PILLERS was interested in the first case mentioned by Mr. Wharam, because it was associated with railway yards. One might perhaps blame the owner for having a horse shod with leather. If there was anything that predisposed to picking up scrap and getting anything in it was leather. The leathers were nearer the ground, and the nails got on it, and were ready at some future date to be jammed into the foot. He thought himself that leathers were most objectionable, and some of the big people who had a lot of horses in places like Sheffield, where horses often picked up nails, had adopted the plan of having a piece of leather with a steel plate on the top of it relaid to the horse's foot. That worked very well, although there might be some objections to it. When horse-owners lost a lot of working time, had to bear the cost of drugs, and run the risk of losing horses, picking up nails became a very serious matter.

BIER'S TREATMENT.

Mr. G. E. SAMPSON: Mr. President and gentlemen, I wish to bring before your notice a treatment which is not so widely employed in our profession as I think the results obtained warrant. I refer to Bier's hyperæmic treatment of injuries to the distal extremities of the limbs. The treatment consists of limiting the venous outflow from the bottom of the limb upwards, and is brought about by the application of an elastic bandage of the Esmarch's type above the seat of injury, preferably below the knee or hock.

Case I.—A bay cart gelding, eight years old, was reported to have picked up a piece of scrap steel in the near fore foot, about the end of January of the present year. I was called to the horse on February 6th and found a punctured wound on the outer aspect at the middle third of the frog, this had already been pared out and poulticed in the interval. I swabbed out the wound with pure carbolic acid, and ordered antiseptic baths, etc.

On February 17th the horse was walking sound, the shoe was put on for exercise. Two days later great lameness appeared, accompanied by a profuse flow of synovia from the wound, there was great pain in the foot, the horse continually scraping with it. Temp. 104 F., and loss of appetite.

The shoe was again removed, and antiseptic baths

with dry dressings afterwards applied. These symptoms—and a variety of dressings—were continued until March 5th, when the case was apparently hopeless, there being still a profuse discharge of synovia which had also burst out in the heel, the horse was unable to extend the limb, dragging the toe along the ground and exposing the solar surface of the foot to view the whole time. On discussing the case with a friend I decided to try Bier's treatment, applying the bandage below the knee for half an hour twice daily. At first there was no apparent improvement, but by March 16th there was evident signs of a better state of affairs; the discharge was less and the febrile symptoms were abating. From now onwards the case made slow but satisfactory progress, a shoe with a hooked toe having been put on, and I have no doubt that in the course of a couple of weeks the horse will be fit to go out to grass. The diagnosis of the case was not absolutely defined, viz., whether the tendon sheath, the joint, or both were involved, but the discharge was certainly synovia.

Case II.—A six-year-old mare of the black funeral worker type, picked up a wire nail in the near hind foot on February 23rd last. I was called in on March 8th, the owner and shoeing smith having treated it in the meantime. There was great lameness accompanied by febrile symptoms, and a punctured wound on the outer aspect of the middle third of the frog. I at once adopted Bier's treatment combined with antiseptic baths and dry dressings.

On March 17th the discharge, which was at first considerable and suspicious of synovia, had ceased, and the mare walked nearly sound.

March 23rd. Shoe nailed on and the mare resumed work in a few days.

Case III.—An aged brown cart gelding, working in a steel dray, was shown up for treatment on December 19th, 1910, very lame from a quarter sanderack on the outside of the off-fore foot.

The usual treatment was adopted, and on about December 25th I removed two bony "sloughs" from the wing of the pedal bone. The lameness gradually diminished, but there remained a purulent discharge which I was unable to overcome, even after twice having cut down on the sensitive structures to search for further necrosed tissues.

On March 13th Bier's treatment was applied, and to-day the discharge has quite ceased, the wall of the hoof is growing down in a sound condition, and the horse is ready for work.

I hope to hear from some gentlemen present their experience with this treatment, so that if their cases have been successful we may adopt the treatment generally, with great advantage to us as a profession.

Mr Bowes enquired whether Mr. Sampson increased the length of the time the bandage was applied, or whether he kept it on the same amount of time, or did he start with a short time and increase it.

Mr. SAMPSON replied that he continued it half an hour at each end of the day.

Mr. Bowes said he had had no experience of this method of treatment. A friend of his had told him of a remarkable success he had had with this treatment. He had a hunter with a very badly inflamed knee. The hunter had struck the knee, or got a thorn in it. He was lame and in great pain. It was not a case of synovia. He applied a bandage, and gradually increased the length of time. His friend did not use an elastic bandage, but an elastic cord. The application was increased a little bit longer each day. The effect in that case was very remarkable. The improvement started almost immediately. After the first day or two the hunter improved all the way, and the animal got quite right. He had often intended to try the treatment. The possibilities were very great.

Mr. CLARKSON said he was glad to hear of Mr. Sampson's success with this treatment. He had had much the same history in one or two cases with pit ponies. He would like to ask Mr. Sampson what kind of bandage he used. The one he (Mr. Clarkson) used was an ordinary human elastic perforated.

Mr. SAMPSON: It was the same thickness as the ordinary elastic garter, and about the same strength.

Mr. CLARKSON said his was a pure rubber one perforated like the one used in human practice for the ankle. He thought without a doubt that each case he had used it on had improved much more rapidly than those without.

Mr. PILLERS (Sheffield) thought from the remarks made by Mr. Sampson, he, Mr. Sampson, could give them a very good paper on the subject. He, Mr. Pillers, had tried the treatment mentioned in several cases, and found it to work well.

The SECRETARY mentioned a case which had recently come under his notice. It was that of a young filly, some three years old. The owners noticed that the filly appeared to be very dazed, and wondered what was the matter with the animal. They called him in. He found the filly distinctly dazed. It was leaning against a wall, and was in very poor condition. He found a distinct enlargement on the forehead. After examination he advised that the animal should be slaughtered. He had brought the head to them for their inspection. He, Mr. Clarkson, thought there was some malignant disease present in the filly.

The CHAIRMAN moved a resolution of thanks to Messrs. Wharam, Sampson, and Clarkson for the cases they had presented to them. They had been most interesting ones.

Mr. Bowes seconded the motion. He thought that from a meeting like that with a few cases presented before them, one learned often as much as from a long intricate paper.

The motion was carried.

The SECRETARY drew the attention of members to the food for beasts provided nowadays. He was inclined to think the foods that animals were living upon at the present time had changed very materially for the worse. Take for instance the case of meals particularly. He had a case the other evening. He was called in to a beast which was eating perfectly well, and in seven minutes the beast was intensely blown up, the muscles were absolutely rigid, the head standing quite out, the eyes staring. When he got to the beast they were drenching her with gin and ginger. The temperature of the animal was 108° 6', but it rapidly fell. He gave an injection. In the morning the beast was all right apparently, and towards evening she cuddled. He thought it was some form of toxin that did the mischief.

In another case the beast was apparently well up to a certain point, the temperature became high, the muscles rigid, but in this case the attack did not pass off as the other did. He, Mr. Clarkson, took it that the food was largely to blame.

They met with diseases in pigs nowadays which he was convinced they did not meet with formerly. Whether it was from the adulteration of food or not was perhaps matter of speculation, but he was very much inclined to blame the putting meal and sharps together. What the constitution of sharps was at the present moment he did not know. He would like to know if other members had had similar cases. He was absolutely convinced the foods were adulterated nowadays.

Mr. SAMPSON said he came across the same thing frequently. He had found in the cases that came under his observation that if they did not kill the animals, they very soon died. A most peculiar thing about the post-mortem was the funny smell. A smell was a difficult thing to describe, but he found in all these cases the same kind of smell.

Mr. CLARKSON remarked that a bad colour was traced. He took it it was a species of toxin.

Mr. SAMPSON: Poisonous seeds in the cakes, perhaps.

Mr. ROBINSON had had one similar case. The temperature was $108\frac{1}{2}^{\circ}$ F at 4 o'clock in the afternoon. Next morning the temperature fell, and at evening the animal was nicely.

Mr. CLARKSON said in the cases he had referred to the owners were using a mixed feed cake.

Mr. ROBINSON: it was so in the case I refer to.

Mr. WHARAM had had a lot of cases very similar to those mentioned by Mr. Clarkson. He usually had them at this time of the year—not when the animals were out at grass. He did not know what the cause was, but he thought it was due to some specific mould on the roots, when they were getting turnips and mangolds. These got very dirty in the piles. In every instance the animals he referred to had been receiving roots. As soon as the beasts got to grass cases ceased. He had examined the food. In many instances the animals had been fed simply on what had been produced on the farm, no meal and no cake had been used from any other place. That was one of the reasons that led him to think that there must be some specific mould which would possibly produce a poisonous toxin. It was very much like strychnine poisoning—the animals affected often lost consciousness, and there was a stiffening of the muscles, but perhaps more like an epileptic seizure than anything else. At any rate, such cases were very difficult to deal with. Owners were always afraid that the animals were going to die. They either recovered quickly, or lingered on, and had eventually to be slaughtered.

Mr. DEIGHTON did not think the soil they ate along with the roots would do much harm. He knew the mould did harm. If the turnips got bitten by a hare or rabbit there was a nasty black place left. He knew if animals ate such bitten turnips bad effects followed. He had known beasts die through eating a small piece of rotten food.

A vote of thanks to the Chairman for presiding, moved by Mr. Bowes, seconded by Mr. McCarmick, brought the meeting to a close.

Tea was afterwards served to the members.

Royal (Dick) Veterinary College.

At a recent meeting of the Board of Management of the Royal (Dick) Veterinary College, Edinburgh, it was intimated that the purchase of a site for new College buildings had been concluded. The site, extending to about one and a half acres, is on the east side of the Meadows, and within easy reach of the University. The cost of the new buildings, which will be commenced without undue delay, is estimated at £50,000.

The Diseases of Sheep.

To the Editor of The Times.

Sir,—Mr. G. Fyde Rowley's letter has caused a good deal of interest to agriculturists, especially in sheep-breeding districts. His opinion as to the great loss of sheep in Huntingdonshire being caused by worms is contradicted by Dr. John Harley in a letter wherein he says, "Worms, live or dead, in the stomachs and intestines, or in either alone, do little or no harm to their hosts—witness bots in the simple stomach of the horse and tapeworms in the intestines of the dog." I wonder where Dr. Harley gained this information? Evidently

not from available literature, because he would there find it stated that bots are not worms; they are the larvæ of the *æstrus equi*, the gadfly of the horse. Evidently not from practical experience, because any owner of dogs can tell him that tapeworms are far from being the harmless creatures that he represents. Is Dr. Harley prepared to state that the *strongylus armatus* and *strongylus tetracanthus* (red worm) found in the intestines of the horse are harmless? In his second letter Dr. Harley has become hopelessly mixed in cause and effect, and his want of knowledge of the habitat of the different entozoa, their life history, and the losses they cause to owners of animals is surprising. Just to mention one or two points in the letter, I have never heard of flukes or tapeworms being found in the heart or lungs. Flukes are found in the liver, not from being "arrested" by accident but because it is their habitat. The same may be said of the *cœnurus cerebralis*, the hydatid causing "gid" or "sturdy" in sheep, and is the encysted larva of the *taenia cœnurus*, and attains its mature form as a tapeworm in the intestines of the dog. It is news to me "that there is no disease of man that is not found in sheep and *vice versa*." There are other points I could touch upon, but I think I have quoted sufficient to prove that Dr. Harley's letter is "contrary to knowledge and misleading."

There can be no mistake about the ravages caused by the *strongylus contortus* found in the fourth stomach in Mr. Rowley's sheep. Any one with a practical knowledge of sheep-breeding will tell you the symptoms—viz., irregular appetite, debility, emaciation, anaemia and death. As a result of the anaemia we very often get effusion in various localities, as in the pericardial sac, which often hastens death. These symptoms plainly indicate that the very life of the animal has been sucked by these pests. There cannot be any other cause. The sheep had been well cared for and well fed. Directly these parasites are destroyed the animal feeds better, gets stronger, and thrives even to the extent of getting fat. The importance of an early diagnosis to eradicate worms in sheep or lambs cannot be urged too strongly. The early autumn is a good time to tackle this trouble, as it is at this time of the year so many of these parasites find their way to their hosts. The different anthelmintics employed are frequently disappointing, and when the worms are numerous and well-established in the stomach and intestines it is difficult to dislodge them. In my opinion this widespread trouble is due to the past two wet summers. Worms can only live for a limited time without moisture. In lambs just now worms of various sorts are very common and causing great anxiety. The *trichocephalus affinis* or hair-necked worm is very prevalent in the large intestines, causing persistent diarrhoea, weakness, and death. This worm is very often accompanied by other worms, a small *strongylus* in the fourth stomach, and even by the *strongylus filaria* found in the air passages, causing hoove. The advantages I found in using the capsules mentioned in Mr. Rowley's letter were—(1) Easily and quickly administered; (2) the medicine being given in a concentrated form gave a much better result than any liquid vermifuge in the form of a drench; (3) the dose of the medicine in the capsule can be largely increased beyond the ordinary dose, which is a very important point.

In conclusion you might ask what I recommend as a preventive. Early administration of medicine and the ploughing up of pastures infested with these worms where practicable.—I am, sir, yours obediently,

CLEMENT BURSTON, M.R.C.V.S.

St. Neots, Hunts, June 27.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders				Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	(including Farcy)		Animals Attacked		Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported			Outbreaks	Animals.					
GR. BRITAIN.													
Week ended July 1	17		22				2	2			1	53	929
Corresponding week in	1910	29	40				4	22	London 1		1	43	252
	1909	21	22				8	37			1	42	389
	1908	16	24				16	36			1	66	498
Total for 26 weeks, 1911	475		592		1	18	104	272	Middlesex 1		303	1333	14979
Corresponding period in	1910	810	981				178	501			315	731	6508
	1909	720	956				299	1171			456	911	8226
	1908	618	815		3	112	410	1334			629	1192	6068

Board of Agriculture and Fisheries, July 4, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended July 1	...	...	...	...	...	...	1	2	10	63
Corresponding Week in	1910	...	...	...	...	...	...	...	1	5	64
	1909	...	...	...	...	...	...	2	5	7	100
	1908	...	...	...	...	...	...	1	1	10	71
Total for 26 weeks, 1911	...	5	6	...	...	2	3	44	242	63	974
Corresponding period in	1910	4	7	...	...	1	2	36	333	57	1341
	1909	3	3	...	...	...	...	49	285	50	797
	1908	4	7	...	...	...	...	25	265	110	2079

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 3, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The Outbreak of Glanders at the Collieries of the Ebbw Vale Co.

A report has been issued by Mr. J. S. Martin, I.S.O., (late Inspector of Mines for the Southern District), and Mr. D. Rocyn Jones, M.B., D.P.H., (County Medical Officer for Monmouthshire) on an investigation they conducted relative to an outbreak of glanders among horses, and the alleged general insanitary condition of the collieries, belonging to the Ebbw Vale Steel, Iron and Coal Company, Limited.

They explain how the enquiry originated through a statement made by Dr. Davies, Medical Officer of Health for the Ebbw Vale Urban District Council, at an inquest held at Beaufort on November 8, 1909, upon a haulier, named John O'Shea, who was employed at the Ebbw Vale Steel, Iron, and Coal Company's Waunllwyd Colliery, that death resulted from blood poisoning having the appearance of "Farcy," and that he had known of a number of workmen engaged in this Company's collieries die from causes due apparently to the insanitary condition of their employment: this statement being followed by a question asked in the House of Commons by Mr. T. Richards, M.P. This resulted in the Home Office requesting Messrs. Martin and Jones to make a thorough investigation into the sanitary condition of this Company's mines.

Accordingly they made a series of visits to the Company's mines, accompanied by Mr. C. L. Robinson (Assistant Inspector of Mines), Dr. T. W. Wade (Assistant Medical Officer to the Monmouthshire County Council), and Mr. D. M. Storrar (Fellow of the Royal College of Veterinary Surgeons and Veterinary Inspector to the Monmouthshire County Council), besides the colliery officials, and made a personal inspection and enquiry above and below ground.

After detailing the sanitary conditions prevailing at the various Colliery workings on the dates of inspection, the Reporters state that during their visit of inspection the stables underground were in each case inspected, and their condition from the standpoints of general sanitation and the possibility of conveying infection from defective structure or unwise practices were carefully investigated. The stables were in good order, but since this inspection they have been thoroughly overhauled, some being replaced by new ones in order to eradicate any likelihood of infection in the future. As the result of their inspection, the Reporters were pleased with the general sanitation and cleanliness of the stables, and although they were not in all cases ideal, yet very little condemnation could be passed upon them.

Mr. Storrar was told off to investigate the general condition of the horses, with special reference to the presence of glanders amongst them, and on Friday, May 13, 1910, he selected five horses from different pits showing symptoms which, although in no way definite, he considered might be regarded as suspicious, and to these he applied the "Mallein" test with the result that four of them reacted. Upon this result Mr. Storrar was directed to officially report the presence of glanders amongst the Company's horses to the Chief Constable and Chief Inspector for the County of Monmouth, under the Diseases of Animals Act.

A general test of the whole of the colliery horses was decided upon, and to interfere as little as possible with the working of the Collieries and consequent distress in the district, such was carried out at the week-ends in batches, the result of which was that the testing has been much prolonged and this report delayed.

The result of the "Mallein" test has been such as to reveal a very serious state of affairs, which could not be determined by ordinary examination, as in very few

cases, indeed, could there be found any external symptom definitely indicating the disease. It also showed that however well kept a stable may be, if a horse affected with glanders is introduced into a stud, either over or underground, there is very great risk of the whole stud ultimately becoming affected. The total number of horses inoculated, including those of Mr. Thomas, contractor, at Victoria Colliery, was 319, and out of this number no less than 133 reacted to the "Mallein" test, giving definite evidence of being glandered, all of which have been destroyed. Two pits were entirely free from glanders, viz.:—No. 1 Waunllwyd, containing 57 horses, and the Victoria No. 1 Colliery (Mr. Thomas, contractor), containing 32 horses. All the other stables, over and underground, were affected in varying degrees.

The Ebbw Vale Company have taken precautions to prevent the disease occurring again by having every horse tested with mallein before purchase, also frequent applications of the test so as to pick out any animal that may, in spite of care and all measures, find its way into a stud. Although the stable ventilation and general sanitary conditions are above the average of colliery stables, the Company have in every pit built temporary stalls for new horses that have been introduced, to prevent any possible contamination, and also allow a thorough disinfection of the permanent ones, which have had everything done to them which is possible to destroy all infective germs. Wooden mangers have been replaced by iron ones, new floors laid down, and stall divisions erected, all of which is very essential, but Mr. Storrar points out that the great point must not be forgotten, that is, to keep the disease out by means of the mallein test, as it is the only method of detection when it assumes an occult form, as in this outbreak. One of the greatest causes of the spread of the disease is the careless use of the "nosebag," and the common drinking place. Bad hygienic and insanitary arrangements and overwork will not produce the disease, but they will (more particularly overwork) give a great impetus to the spread of the disease once it finds its way into a stud.

The report then gives the result of the investigation into cases of infectious diseases and blood poisoning alleged to have been contracted amongst workmen employed underground in the Ebbw Vale Urban District through the alleged insanitary conditions of the collieries of the Company, and also of typhoid cases amongst colliers for the period covered by the years 1900-1910.—*The Iron and Coal Trades Review*.

Congress of the Royal Institute of Public Health.

TO BE HELD IN TRINITY COLLEGE, DUBLIN,
15TH TO 21ST AUGUST, 1911.

There are several Sections in which Papers will be discussed of general interest, and in one Section, the Pathological and Veterinary Section, matters of special importance to the profession, will be debated. In addition to the ordinary business of the Congress, there are to be entertainments of different kinds for members, such as garden parties, conversaziones, theatres, etc., all of which will be most enjoyable.

We are very anxious to have a representative gathering of the profession, and we should like to know if you will become a member of the Congress, the fee for which is half a guinea.

A. E. METTAM, President of Section.

A. WATSON, } Secretaries.
E. C. WINTER, }

Members of the Congress are sent a voucher which entitles them to travel for a single fare and a quarter return ticket.

PATHOLOGICAL AND VETERINARY SECTION.

1. President's Address.
2. Diseases communicable from Animals to Man.
Professor Craig, M.A.
3. Suggested amendments in the Laws and Regulations dealing with Milk.
Sir Chas. A. Cameron, C.B.
4. The Relation of Bacilli of the Typho-Coli Group to Meat-Poisoning and Para-Typhoid.
Professor E. J. McWeeney, M.D., M.CH.
5. Contamination of Milk occurring between the Cow and the Consumer.
W. J. B. DeVine, F.R.C.V.S., D.V.S.M.
6. Keeping of Animals and their influence on Public Health.
W. Cargill Patrick, F.R.C.V.S.
7. Meat Inspection in Rural Ireland—What it is and What it ought to be.

P. J. Howard, M.R.C.V.S.

PARLIAMENTARY.

In the House of Commons, on Tuesday, July 4.

FOOT-AND-MOUTH DISEASE.

In reply to Sir H. Verney (Bucks, N., Min.), Sir E. STRACHEY (Somerset, S., Min.) said: I regret to say that foot-and-mouth disease has broken out at Blands Farm, Hounslow, Middlesex. Of the 76 pigs on the farm at least 42 are affected. One heifer out of the 19 cattle is also affected. All these animals, affected and in contact, will be at once slaughtered, and the usual steps for isolating the infected area have been taken.

Personal.

ROBERTSON.—At his residence, Lismore, New South Wales, to the wife of James A. Robertson, a son.

Mr. JAMES H. THOMSON, M.R.C.V.S., Oban, has been appointed Veterinary Inspector for the County of Sutherland.

The Lord Lieutenant has been pleased to appoint Mr. CHARLES ALLEN, F.R.C.V.S., 35 North Frederick Street, Dublin, and Fortmarnock, Co. Dublin, to the Commission of the Peace for the Borough of Dublin.

OBITUARY.

W. O. ROBERTSON, M.R.C.V.S., Ettrick Place, Selkirk.
Graduated, Glas: May, 1892.

Death occurred on June 29th, from meningitis, at the early age of 41 years.

CORRESPONDENCE.

IS IT MEGRIMS, AND IS THERE A REMEDY?

Sir,

Twelve months ago a one-year-old Airedale terrier was treated for distemper. The disease ran an easy course, and recovery was speedy. The only sequel was a slight shaking of the head at infrequent intervals. Lately the head shaking has become a daily occurrence, and is performed with violence, the dog falling in an exhausted state. After a minute he rises and scampers as if nothing had occurred to disturb the serenity of his existence.

His health is excellent, his ears are clean, his teeth are perfect—Yours, etc.,

June 28

WOODFORD.

ANTHRAX IN THE HORSE.

Sir,

I was much interested on reading Mr. Carter's case of anthrax in last week's *Record*. Most of us have been at different times puzzled to account for some outbreaks of anthrax, especially when cases occur singly and are not followed by others. A recent experience of my own may be interesting.

A client of mine found a fat cow dead (or dying) lying by the side of a brook. He had the animal stuck, and a heavy thunderstorm coming on some of the blood was washed into the stream. When dressing the carcass anthrax was suspected and I was sent for. I found the spleen about three times the normal size, and anthrax bacilli in the blood.

The Police at once fenced off and disinfected the place where the animal died, but a week later a horse [which had access to the brook in question died suddenly, and on a microscopical examination I found anthrax bacilli in the blood.

This brook flows for a mile and a half through a grazing district into the Trent, and so on to the Humber. Here seems to me a not unlikely cause for some future mysterious outbreak of anthrax along the banks of this stream.

Another interesting feature of this case is that my client assured me his cats and fowls ate of the cow's carcass without ill-effect, and the butcher when dressing same, repeatedly put his knife between his teeth; beyond a severe fright on learning the nature of the disease, which his friends feared would prove fatal to him, he is, up to now, none the worse.

I may add that both these cases of anthrax were confirmed by the Board of Agriculture.—Faithfully yours,
GEO. WARTNABY.

Burton-on Trent, July 3.

THE CAUSE OF SWINE FEVER.

Sir,

I have now, after several years working in the dark, satisfied myself entirely as to the cause of this disease. It is due to a minute strongyle which burrows into the intestine causing ulceration of the bowels, and a worm in the lungs setting up broncho-pneumonia.

I have often wondered why it has baffled every attempt to eradicate it, and am now satisfied that it is useless to try and do so.—Yours, etc.,

GEO. UPTON.

THE LIMITS OF DIAGNOSIS.

Sir,

So long as our patients are not possessed of the power of speech, so long will our diagnosis of their ailments remain more obscure than in the case of the human subject. The only animal that might have enlightened us as to pain and symptoms when ill would have been Balaam's ass, and unfortunately he is long since dead. It is said that "in much wisdom is much grief, and he that increaseth knowledge increaseth sorrow," and the wider and deeper the diagnostician's knowledge, the more he will appreciate the difficulties in giving an opinion, and the slower he will be in expressing it; but it is no good casting pearls before swine, and the wise practitioner must know his man before he talks much book to him.

Occasionally we meet a worldly-wise, cultured, widely read and educated man, and if we belong to the cocksure crew we cut a sorry figure.

There are two sorts of self-confidence, that of ignorance and that of the man that knows. Unfortunately the first attracts the public by its glamour and assumed omnipotence, but time put the stamp of inefficiency upon it after a period, and the infallible practitioner drops to his true level, whilst his careful and less cocksure contemporary comes by his own and advances in the public esteem.

However it may be in other parts of these Isles, I have found that owners of animals do take some interest in a dead carcass, and if a veterinary surgeon does not attend a post-mortem he is often asked or expected to do so. He would be requested to do so more than he is if his fee for attend-

ing a post-mortem did not come on top of the loss of the animal.

The following story seems to me to illustrate the strength of the argument and the value of the evidence against the non-employment of therapeutic measures, drugs included, and the weight of the inferences sometimes drawn from such cases as recover naturally.

A white man kept a goat, a black man living next door to him complained that the goat smelt. The white man retorted that the black man smelt a jolly sight more, whereupon the black man sued the white man for damages for libel. When the goat was brought into court both judge and jury fainted. Having recovered, the black man was called into court to give his evidence. When he entered the witness box judge, jury, and goat fainted. Result: Verdict for defendant with costs on the higher scale.

The inference that some men might draw from this tale is that all black men or the majority of black men smelt stronger than goats, but the true inference drawn from the story does not warrant any such conclusion.

In out-of-the-way quarters of the world, where coarseness is king and ignorance flourishes, it is always possible to come across the tail shotten, worm in the tail believer, and the cayenne-pepper-giving, onion-to-the-vagina fiend, but these individuals are no great catch as clients, and their conversion to the ranks of the eminently sane would possibly be only accomplished by earthquakes or Gatling guns. As regards money making, I am afraid we must all make as much as we can; most of us have pet ways of trying to make it, differing a bit in degree, but having great similarity in the source and cause of the driving power.—Yours truly,

G. MAYALL.

Sir,

I have read with great interest the article written by Mr. Wallis Hoare on the above subject, and also the reply, if one may so term it, by Mr. G. Mayall.

Now in the first place let me say that I yield to none in my admiration of Mr. Hoare and his articles, and therefore that I am a prejudiced critic right at the beginning. But allowing for my little bias, I think that many of your readers must have agreed with his "dicta."

I am quite a junior of the juniors in our profession, but during the last eight years (four in college and four as a practitioner) I myself have had many salutary lessons showing me the extreme difficulty of arriving at a correct diagnosis in a given case.

My first blatant error happened when, as a particularly green assistant, I was dispatched to report upon a case. After a prolonged examination, lasting nearly an hour, and a badgering of the poor owner with needless questions, I returned with a glowing description of symptoms and diagnosis of "general rheumatism." As I wended my way through the maze of symptoms in relating my experience to my master, to this day his tones ring in my ear as he said "I think it is quite evident that the horse has tetanus. I hope you did not mention anything about rheumatism to Mr. ———." The remembrance also comes to me of another day, in College, when one of our professors pointed out to our admiring gaze a lipoma on the side of a dog's chest. It was only a teat placed slightly out of line!

The above are two instances of mistakes, the one of a junior (*mea culpa*), the other of a learned man high in the ranks of the profession, made simply through thoughtlessness and carelessness.

But there are other mistakes one makes, even after one has left the callow College stage, and when one can claim to approach a case viewing it in all aspects, and adopting towards it both a critical and a deductive philosophy, and it is those mistakes which convince us of the limits of diagnosis.

Some time ago I had occasion to visit a cow which, to my mind, presented all the symptoms and had all the history of that phase of cerebral trouble we term stomach or sleepy staggers. The cow had calved a month previously and had been turned out on a patch of clover for the first time that day. She came up gorged with food, and when I arrived on the scene she was standing in a listless state, head hanging, eye sleepy, pulse sluggish. As I watched,

she had an attack of frenzy and apparently seemed in pain, struck at her abdomen with hind legs, glared round the box, and then proceeded to try to produce a small cyclone on her own.

With conspicuous bravery (?) I handled the case, and having administered the usual purgative and other treatment that seemed to apply, I left the place covered with glory. On the following day I discovered her in about the last stage in milk fever! 'Nuff said. She recovered in about 12 hours, I in about 12 weeks.

I have had the pleasure of meeting those lucky individuals who tell me they have never made a mistake in diagnosis. I usually find that it is indeed true, for they have never made a diagnosis. "A chill (beautiful word) on the liver, stomach, kidney, bowels or back," "lame in the shoulder," "lame in the foot"—such are the brilliant efforts of those delightful individuals who never make a mistake.

With regard to the use of drugs, may I ask this question? Did any of us ever meet a medical man—doctor or veterinary surgeon—who had risen above the line of empiric or quack, and who had the slightest faith in scores of the drugs in his surgery when they were prescribed for himself by his own medical attendant? We must grant the efficacy of a few drugs, the derivatives and compounds of, say, Ammonia, Opium, Nux vomica, Cinchona, and Iodine. But the rest—!

Take a man who is a bit "off colour," he is prescribed for and receives that old favourite a "bitter tonic"—Quassia, Columba, and that ilk. Now is it not a fact that exactly the same effect could be produced by a half-hour's gallop, or some such exercise, or even by a humble "glass of light bitter, Miss," but perhaps your readers may look on a glass of fo'penny as a medicine, like the old Scotch parson. I don't.

Are we to be told that the country practitioner, of whom I am one, when he solemnly hands out his packet of "condition powder" (Mag. sulph. and sulphur flores, with ferri carb. a trace) and such like medicaments, that he for one moment believes that it will do a whit of good. Believe me he doesn't, and he is very careful to instruct his client of both quantity and quality of food to be given, striving to attain by those means the result he wishes to be credited to his nostrum.

If he does not feel that half of his prescribing is, to use Mr. Mayall's Parliamentary phrase, bunkum, he must have a more brilliant imagination than I possess, and he should give up his work and become a compiler of statistics for the use of Free Trade and Tariff Reform lecturers. He would be the "success of the season."

To my mind we must be honest with ourselves, acknowledge our mistakes freely, try to rectify them openly, administer medicine *a placebo* if we must, but try to encourage careful nursing and dietetic methods to bring about those results which will be a credit to ourselves and our profession, and save us from the degradation of becoming empirical know-alls.

With regard to lameness—may I be permitted to give to Mr. Hosre and Mr. Mayall a little tip told me by a fellow student on the celebration of his third failure at the "final." "When a horse is lame, blister all four legs, you will probably hit the right one."

MOMPARA.

THE OBJECTORS TO THE AMENDMENT BILL.

Sir,
I have read in the *Record* of 24th June a letter by J. P. Isherwood, Headed "The Amendment Bill and the Objectors," in which he expresses the opinion that, "The Majority of the Profession are pretty well disgusted at the address to Members of the House of Commons." That address appears in *The Record* of June the 17th, and as a member of the profession I fail to see where disgust comes in. Mr. Isherwood might also be surprised to learn that the "disgust" is not very wide spread, and that the five gentlemen whose names are appended to the address, are only doing duty for a very large number of members in England, Scotland and Ireland, who have all along been dissatisfied with the high handed way in which the Council has dealt with the question from the first, and although the Bill

has been more than once trimmed to get free from the opposition of outsiders (the last being the H. and A. Society). Still it is a delusion to imagine that the members of the veterinary profession can be handled any way, and they will have something to say before the Bill as it stands will become law, and I would simply tell Mr. Isherwood that it is not the objectors to the present Amendment Bill, that aim at "destruction," but a few who simply want their own way. I may also state that other Members of Parliament, than those who introduced the Bill, had their eye on it. I agree with Mr. Isherwood and others that money is required, and I also agree with him that a registration fee of 10/6 should be ample. Further, that no increase of students' fees should be made, there are many other points in the present Amendment Bill that require to be dealt with by the Profession, and not simply by the members of Council—then we might look for "Construction." For instance, the pertinent question has been asked, what is the Council going to do with £3,000 a year? and what benefits are the outside members of the profession likely to get, or what influence are they likely to have. The present method of electing the Council makes it like one of the old close Corporations, where with very few exceptions, the same men are elected year after year, why not make the retiring members be one year out of office before they are eligible for re-election, and break up cliques. This Bill will not be carried without the approval of the general body of the profession, and the simple election of members of Council for general purposes does not give that approval.—I am, etc.,

A. I. McINTOSH.

Dumfries, 26th June, 1911.

Sir,

As one of the signatories to the Appeal to Members of Parliament, I must take great exception to the remarks of your correspondent Mr. Isherwood. We admit that the Royal College is in want of money, but how much and for what purposes the Royal College has not deigned to consult the profession. According to your correspondent's opinion half the annual sum asked would be sufficient. We say, for argument's sake, £1,000 would be ample for present needs, and an appeal to the profession would have met a ready response. We are not "blinding ourselves to facts," but in the face of the decrease in students year by year, the decrease of practice (there is no question that the ordinary practitioner finds it difficult to get a living and can ill afford fresh burdens), we are aware there is decay and depression which threatens to last for a decade.

Vis unita fortior is a very good motto, but I fail to see how the "unita" is to be maintained by coercion, or the "Vis" made "fortior" by the "despicably mean way" of putting a yearly tax on an already heavily handicapped calling.—Yours truly,

HENRY DYER.

Brompton Road. June 28.

Sir,

But that the gross libel of your correspondent "Mephistopheles" affects some 900 members of the profession, I should have treated his letter with the silent contempt that such attacks from the "Devil" deserve. Your space is valuable and I will be brief—in italics, sir, please, as "I think it deserves the distinction."

I have seen some 600 signed letters from opposers of the Bill, these letters with many more are in Mr. Hurdall's possession and can be seen by anyone wishing to know the truth.

I think it unnecessary to comment on other fabrications of "Mephistopheles," and am content to leave judgment in the hands of all honest men, but at the same time, as Englishmen we all have a right to our own opinion, and ought not to be subject to such sneering and scurrilous innuendos as those produced by such an evil mind as "Mephistopheles," who, by the way, has chosen well his *nom-de-plume*, "Not loving the light."—Yours truly,

HENRY DYER.

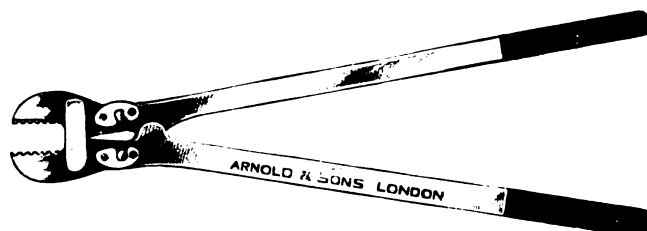
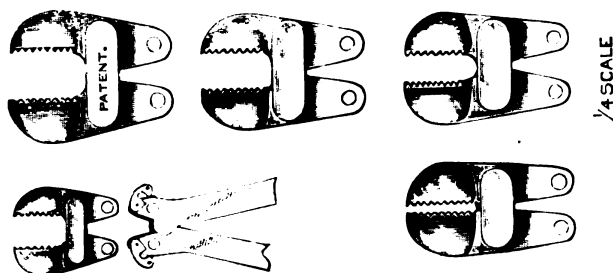
Brompton. July 3.

[A point of importance is the date of the letters, which should be known.—ED.]

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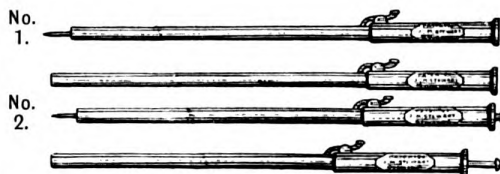
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Notice

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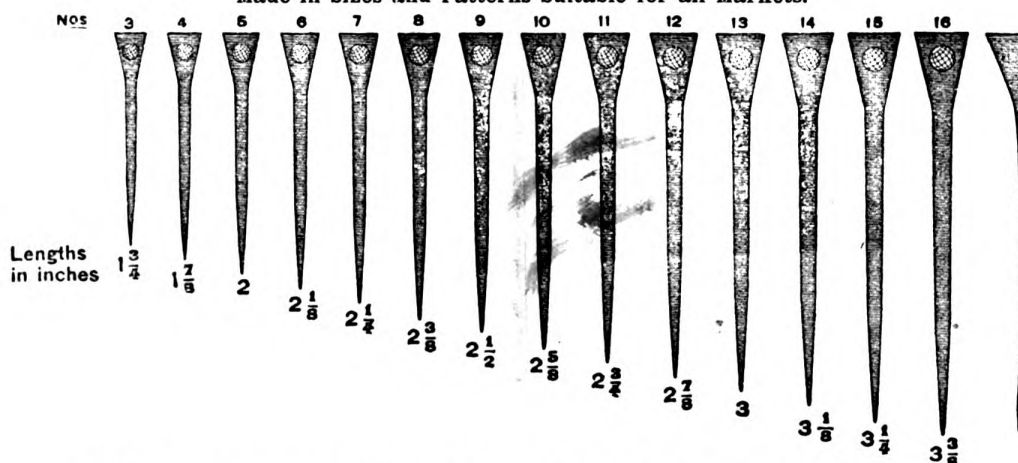


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Royal Counties' V.M.A.

A general meeting of this Association will be held on *Thursday, July 20th.*

It has been decided that, being coronation year, this meeting shall include a River Trip, and arrangements have been made by the committee appointed for that purpose.

Conveyances will meet the 12.33 train from London arriving at Maidenhead 1.28, the train leaving Reading 12.58, arriving at Maidenhead 1.17 and the train leaving Oxford (via Wycombe branch line) 11.20 arriving Maidenhead 1.12. The party will be driven to the Launch "Empress of India" at Boulter's Lock: thence up river to Henley, arriving about 6 p.m. Convenient trains leave Henley at 6.35 and 7.43 for London and Reading. Luncheon and tea will be served on board the Launch: Tickets 12s. each, include conveyance from station, luncheon, tea, and launch.

Any member of the Veterinary Profession and friends will be heartily welcomed. The Committee particularly hope that ladies will be present. *An early application* for tickets, enclosing cheque to the Hon. Sec., is requested, in order that final arrangements may be made.

The meeting for the necessary business will be held in the Saloon during the trip.

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MIXED practice in West hunting country, old established; premium £20. Address, 7307 V.R., 20 Fulham Road, London, S.W.

For Disposal

OLD established town and country practice in Yorkshire. Good opportunity for energetic man with capital. Good contracts. Bookings over £500. For immediate sale £250. Address, 6307 V.R., 20 Fulham Road, London, S.W.

For Disposal

GOOD country practice doing between £400 and £500 a year. Price £300. Owner going abroad. Address, Bell & Park, Queen Street, Exeter.

Partnership

WANTED, junior partner (succession in a year or two) in horse and cattle practice returning about £600 with room for considerable increase. Half share £250 and valuation. Address, 8307 V.R., 20 Fulham Road, London, S.W.

Practice Wanted

COUNTRY practice, Cheshire or neighbouring country Capital at command. Particulars in confidence. Address, 2062 V.R., 20 Fulham Road, London, S.W.

Assistant Wanted

FOR town practice. State age, references and salary required. To live out. Sign usual bond. Address, 1107 V.R., 20 Fulham Road, London, S.W.

For Sale

GOOD mixed practice for immediate disposal. Last years returns guaranteed £420 C.C., and other appointments. References and introduction given. Easy terms of payment for a quick sale. Price £160 or nearest offer. Address, 3207 V.R. 20 Fulham Rd. London, S.W.

To Veterinary Surgeons

VETERINARY Surgeon with an old established practice is open to negotiate with a practical gentleman for a partnership and early succession, terms could be arranged. Apply, with full particulars to 2071 V.R., 20 Fulham Road, London, S.W.

For Disposal

COUNTRY practice in Midland County, carried on by the vendor for half a century, nearest opposition 5 miles, returns about £200 yearly, introduction given. Price £120. Further particulars to bona-fide purchaser. Address, 2074 V.R., 20 Fulham Road, London, S.W.

For Sale

MARKHAM'S Masterpiece, a very old and curious Veterinary work. Book in good state of preservation. Address, 2073 V.R. 20 Fulham Rd., London, S.W.

Qualified Assistant Wanted

WANTED end of July qualified assistant for mixed town and country practice. No objection to recently qualified man provided he has had some experience of country work. Address, 2078 V.R., 20 Fulham Road, London, S.W.

To Veterinary Surgeons

WANTED by a qualified veterinary surgeon, first-class appointment as assistant or manager of branch. Well up in all kinds of town and country work. Can spay well. Excellent references. Address, 1207 V.R. 20 Fulham Road, London, S.W.

As Improver

CLASS C student, July, desires position as improver been in good mixed practice. Ride, drive and cycle. Address, 7207 V.R., 20 Fulham Road, London, S.W.

Unqualified Assistant

DESIRES engagement, thoroughly practical, good dispenser, long experience. Or would act as kennelman, etc. Address, 8207 V.R. 20 Fulham Rd., S.W.

Locum Tenens

M.R.C.V.S., thoroughly used to country practice and holding testimonials as to ability and general character from many practitioners, is always open to engagement when not actually filling a post. Permanent Address, "Locum," 59 Gascony Avenue, London, N.W.

Wanted

QUALIFIED Assistant for London practice. Sign bond. State age, salary required, and experience. Address, 1072 V.R., 20 Fulham Road, London, S.W.

As Assistant

CLASS C student, up in July, is desirous of the above position during vacation. Three years practical experience in a large mixed practice prior to entering coll. Capable of fulfilling all duties. Address 1076 V.R., 20 Fulham Road, London, S.W.

See also page VII.

NATIONAL VETERINARY ASSOCIATION,

President: T. SALUSBURY PRICE, Esq., M.R.C.V.S., Brixton, London, S.W.

The Annual Meeting will be held at
CARNARVON,
Wednesday and Thursday, July 26th & 27th
 Annual Banquet on the evening of Wednesday, July 26th.

The Provisional Committee have arranged for the following papers:—

Veterinary Education in Relation to Public Health, Dr. O. C. BRADLEY.
 Discussion opened by J. W. BRITTLEBANK, M.R.C.V.S., D.V.S.M.

Sclerostomiasis, Dr. H. E. ANNETT, M.D., D.P.H., Professor, Dr. LEIPER, M.B., F.Z.S.
 Discussion opened by A. W. NOEL PILLERS, F.R.C.V.S.

Surgical Shoeing, H. SUMNER, M.R.C.V.S.
 Discussion opened by E. A. WEST, F.R.C.V.S.

Principles of Economic Feeding (Horses and Cattle) H. TAYLOR, F.R.C.V.S.
 Discussion opened by HAROLD A. WOODRUFF, M.R.C.V.S., Professor.

DRUGS, INSTRUMENTS, ETC. Those desirous of exhibiting should apply at an early date, stating space required, to—

L. W. WYNN LLOYD, Carnarvon, *Hon. Sec. Provisional Committee.*

Saloform Pessaries.

The New Uterine Antiseptic

Highly recommended by many eminent
 Veterinary Surgeons.

PRICES: Ordinary Strength, White.

4/6 per doz. 48/- per gross.

Extra Strong, Yellow.

6/6 per doz. 72/- per gross.

Sole Proprietors—

HARKNESS, BEAUMONT & CO.,
 Wholesale Chemists,
EDINBURGH.

Veterinary Surgeons have for long keenly felt the want of something which could be used with good results as a Uterine Antiseptic and which at the same time could be quickly and easily administered. After many trials, and with the kind co-operation of some able Veterinary Surgeons of great experience in parturition cases, we have succeeded in producing

a Pessary made with a non-olly base which does its work efficiently and at the same time is non-irritant—in fact, soothing in its effect. They are of great use in parturition in cows or mares; and if administered immediately after parturition they will keep the Uterus clean and healthy, and prevent the after-birth becoming foul.

Veterinary Surgeons in various parts have highly recommended them, and there is an increasing demand for both kinds.

Customers are requested when ordering to state which kind they prefer.

A RECENT UNSOLICITED TESTIMONIAL.

AINSWORTH WILSON, ESQ., F.R.C.V.S., writes:—

"I have used the Saloform Pessaries supplied by Messrs. Harkness, Beaumont & Co., of Edinburgh, with good results in various diseases of the genital organs, both in mares and cows, more especially after parturition. They are particularly useful in retention of the afterbirth, with septic complications. It is often impossible to attend more than once a day to irrigate the uterus; in such cases it is good practice to leave one or two of the "extra strong" pessaries *in situ*. I have found them an excellent substitute for Iodoform and other well known non-irritating antiseptics. I feel justified in recommending them to the profession.

Witham, Essex.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1201.

JULY 15, 1911.

VOL. XXIV.

THE COUNCIL MEETINGS.

Last week's Council proceedings were neither long nor particularly interesting. The first business was the appointment of a President, and the first name proposed was that of Mr. Villar, than whom no worthier occupant of the Chair could have been found. It transpired, however, that Mr. Villar unfortunately was unable to accept office; and the Council then unanimously selected Prof. Mettam as President for the year. It is unnecessary to comment upon an appointment which will commend itself to everyone. We all know the new President's personal attributes and his record of work for the profession within and outside the Council chamber; and we all know what may be expected from him in the Chair.

The College finances present the usual deplorable picture. Every quarter the Treasurer has a mournful little speech to make, but this one makes worse reading than any he has yet delivered. Briefly, the position is this—that, all other resources having failed, £1,000 worth of Consols are now about to be sold, but that the necessity of repaying the bankers' overdraft of £570 from the proceeds of the sale will leave only some £200 in the Treasurer's hands, and that he will probably therefore be obliged next October to ask for authority to sell another £1,000 worth of Consols. It is very possible, therefore, that the last six months of the present year will see one-quarter of our scanty capital sunk to repay debts and meet current expenses—a situation which we may well leave to speak for itself.

One other very important matter was dealt with. The Council have refused to recognise the Veterinary Degree of the University of Melbourne as at present constituted, and the refusal was undoubtedly justified. The sole reason appears to be the constitution of the Veterinary Examining Board of Melbourne University, which is arranged on lines diametrically opposed to ours. Our regulations preclude teachers from acting as examiners; the Melbourne Board, on the other hand, consists exclusively of teachers, and therefore affords no such guaranty of an independent test of the candidates' knowledge as does ours. It is possible, of course, that the authorities at Melbourne may be induced to re-model their regulation—we hope they will. But it was clearly out of the question for the R.C.V.S. to recognise a degree granted upon an examination system so essentially inferior to its own.

THE CARNARVON MEETING.

The National Veterinary Association hold their annual general meeting on July 26th and 27th in the Guildhall, Carnarvon. Nothing need be said of the town or surrounding district except that their attractions have filled columns of the newspapers for some days past. What with the scenery, the historical attractions, and the recent patriotic events it must be confessed that the "National" was happily inspired when it chose Carnarvon for this year's meeting. The four papers to be presented for discussion are all interesting and instructive, besides which it is hoped that, at last, the scheme for affiliating all our Societies may be accepted.

The annual dinner will be held on the evening of the 26th at the Sportsman Hotel.

On the 28th an excursion is offered to Snowdon, with luncheon at Beddgelert, and sufficient time for those who desire to see the view from the top of the mountain to make the ascent by mountain railway.

Members who attend the meeting should write and engage rooms either at the Royal, The Sportsman, Prince of Wales, Castle, or Commercial. Probably the town will not be crowded on the 26th, but so much has been said of the beauties of North Wales that it is safest to engage rooms in advance.

A golf tournament has been arranged, and all who desire to take part should give early notice to the Secretary, Mr. Wynn Lloyd. One more word of advice we may offer—that every member should use the postcard which will be sent, so that the local officers may know how many to expect and be able to arrange accordingly.

THE ROYAL COMMISSION ON TUBERCULOSIS.

"Man must, therefore, be added to the list of animals notably susceptible to bovine tubercle bacilli." This single sentence from the long-deferred Final Report of the Royal Commission may almost be taken as summarising its main moral.

It is satisfactory to note that this lengthy Report is unanimous. It is signed by all five Commissioners (including the late Sir Rubert Boyce), and we expect it to prove the most powerful factor that has yet appeared in awakening the public to the danger arising from tuberculous meat, from tuberculous milk especially, and, perhaps most of all from the tuberculous cow.

FATAL HÆMORRHAGE FOLLOWING TOOTH EXTRACTION.

J. McRAE FROST, M.R.C.V.S., Wimbledon.

Mr. G. H. Livesey's article "Unexplained Hæmorrhage," reported in *The Veterinary Record* of June 17th, recalls to my mind a case I had about two years ago, which may prove of some interest, as cases of the kind appear to be rare in canine practice.

The subject, a Scottish terrier, four or five years of age, was brought to me for advice concerning a permanent discharge coming from below the orbit. This was diagnosed as pus in the antrum of the carnassial molar, and extraction of that tooth advised. I performed the operation under chloroform, the tooth coming away without difficulty, passed a probe from the facial outlet to the socket of the tooth and syringed through with chinosol. Hæmorrhage was no more pronounced than one usually meets with in extraction of this tooth, and the owner took the dog home at four o'clock—three hours after the operation everything apparently satisfactory. As a rule in these cases I give an antiseptic to be syringed through for a few days (as I did in this one) and think no more about them. However, on the morning following the operation I had a telephone message to call and see the dog as soon as possible as it had lost a good deal of blood during the night and was bleeding freely at the time. A hospital nurse had meanwhile done what she could for the patient in the way of syringing the socket with ice-cold water, plugging etc., but without avail. On arrival I syringed with a solution of adrenalin until bleeding ceased, and then plugged the socket with gauze saturated with the same solution. As the patient could not be induced to remain quiet I gave $\frac{1}{2}$ gr. morphia hypodermically with 1-200 grain Ergotinine cit., and promised to call again in the evening. I was telephoned for again about 2.30 p.m., the message being that the dog was quiet, bleeding had stopped, but there was a great deal of swelling about the face and a "piece of flesh, like a gooseberry" protruding from the facial opening; this I found to be coagulated blood, and the mouth and cheeks absolutely full of the same material—hence the swelling. After clearing away the coagulated blood I again syringed and plugged with adrenalin solution. A quarter of an hour later pure blood was vomited (no vomiting occurred, as is usual, after administration of the morphia) and the bowels were opened, at first blood-stained faeces and then pure blood was passed. After this the dog became rapidly worse, alcoholic stimulants by mouth, and strychnia hypodermically were administered, but death took place within half an hour.

This is the only case of fatal hæmorrhage following tooth extraction I have had out of many hundreds of cases, and am inclined to think that in both this and Mr. Livesey's case the dogs were subjects of hæmophilia, and that fatal hæmorrhage would probably have resulted in any other operation involving laceration of vessels performed on

them. In my case there was no undue laceration of the parts, as the tooth came out quite easily. A dental friend has since told me that he finds turpentine the best agent to employ for plugging sockets when hæmorrhage is profuse after extraction.

CYSTS IN FEET OF DOG.

I enclose photo of a retriever dog's fore feet. The patient, aged 7 years, has been under my treatment one year. As can be seen, one cyst is full; the other has broken out in more than one place and is partially empty. There was another on a hind foot.



Immediately after this photo was taken I opened the three cysts and applied different mixtures to each wound. They all healed about alike; and since, each foot has been affected again, same place, at different times, and another lesion has appeared on the foot that was all right at the time the photo was taken. A cyst will appear in about 18 hours, lameness acute; if left alone it will sometimes break of its own accord in another 18 hours, and lameness gradually disappears. When opened a liquid-like serum escapes tinged with blood, and sometimes there is a little thick pus to finish with.

I have had a good many dogs through my hands as patients during my 26 years practice, but until I moved into a city about one year ago, I had not seen a case of its kind, and now I have at least four cases in dogs of different breeds under treatment for the same trouble.

I am not satisfied.

If any of your readers could tell me; How to cure a cyst and prevent it coming again: How to prevent others coming, and what is the name of the disease? I should be grateful.

A. Z.

ABSTRACTS FROM FOREIGN JOURNALS.

THE ACTION OF "606" UPON GLANDERS IN LABORATORY ANIMALS.

W. Benewolensky has published, from the bacteriological station of the Veterinary Institute at Jurjew (Dorpat), a long and careful study of the action of Ehrlich's preparation "606" upon glanders bacilli and the glanderous processes in small laboratory animals. An abbreviated abstract of this article has been translated from Russian into German by Prof. C. Happich. The following is a brief summary of Benewolensky's methods and results.

Three species of experimental animals were used, viz., rabbits, guinea-pigs, and cats. These were, in the first place, artificially infected with glanders by means of a three days' culture of bacilli in glycerine agar, and were afterwards treated with salvarsan ("606.")

The glanders bacilli were introduced intraperitoneally in the case of guinea-pigs and rabbits, and into the back of the neck in cats. The salvarsan was employed in three different forms, according to the method of its introduction; alkaline solutions were used for intravenous injection, suspensions in sterile liquid paraffin for subcutaneous injection, and neutral suspensions for intramuscular injection. A simple one-gramme or two-gramme injection syringe was used for the subcutaneous and intramuscular injections; a ten-gramme syringe may be used for intravenous injection, but the author prefers a siphon, specially constructed to his design, as being more convenient and safer.

In all 52 animal experiments were performed as follows: 21 on rabbits (of which six were control animals), 16 on cats (of which four were controls), and 15 on guinea-pigs (of which four were controls). These animals, after a short preliminary period of observation, were infected with glanders, and after a definite period of time (which Happich does not specify in his abstract) had elapsed, received one or two injections of salvarsan. Their progress was observed twice daily, and in animals that died, in addition to post-mortem observation, cultural experiments were made with the heart's blood and from the liver and spleen.

In addition to the effect of salvarsan upon glanderous processes *in vivo*, the author also tested its action upon glanders bacilli *in vitro*. For this purpose he used salvarsan in physiological salt solution in twelve different strengths, ranging from 1 in 200 to 1 in 1,000,000; and tested the action of the agent after 1 minute, after 3 minutes, and after 15 minutes.

The result of all the animal experiments showed a very clearly evident influence of salvarsan upon the glanderous processes, and it is especially noteworthy that the duration of the diseased process stood in definite relationship to the quantity of salvarsan injected. This last point was especially clearly manifest in the case of rabbits. Animals

which received a quantity of salvarsan approaching the dose tolerated by the species died *quickly*, while those which received no salvarsan died in due course from the ordinary progression of the disease. Animals which had received a smaller dose of salvarsan, on the other hand, did not die of glanders but lived.

In acute glanderous processes it is possible to sterilise the infected organism by means of salvarsan. The negative results which the author has obtained from cultural experiments with the blood of dead animals confirms this. The author thinks that the destruction of glanders bacilli within the body is probably due to two causes. The destruction of a portion is effected by the chemical action of the salvarsan, and the remainder are destroyed later by antibodies which are formed as a result of the chemical action of the drug.

Minimal doses of salvarsan are therefore requisite for the destruction of the bacteria; and this view is confirmed by the results of the author's experiments *in vitro*. In these it was found that salvarsan in a dilution of 1 in 40,000 killed glands in 1 minute, that a strength of 1 in 100,000 did so in 3 minutes, and that a solution of 1 in 1,000,000 did the same in 15 minutes.

Large doses of salvarsan effect the destruction of an excessively large quantity of bacteria but cause the quick death of the animal from the disintegration products which result from the bactericidal action.

The author finally concludes that salvarsan has a practical importance in addition to a purely scientific one.—(*Zeitschrift für Wissenschaftliche und Praktische Veterinärmedizin*.)

[I wish I could give this research in full detail. If its conclusions are confirmed, and a safe dosage is established for the larger animals, it may prove very important in some countries. Arsenic was one of the drugs which enjoyed a reputation in the treatment of glanders in old days.—TRANSL.]

PRIMITIVE CANCER OF THE LIVER IN A COW.

Meyer records (*Zeitschrift für Fleisch- und Milch Hygiene*) this case, which is a very rare one in veterinary pathology. The subject was an old cow, in perfect health, which had been slaughtered for human food.

The liver was normal in its size, form, and colour, but it was crammed with rounded nodosities ranging from the diameter of a pea to that of a five franc piece. One of these nodosities, however, the largest, had the dimensions of the palm of the hand and was umbilicated at its centre.

All these neoplasms were yellowish-grey in colour and somewhat firm in consistence. Their sectioned surfaces were uniform, and showed no central softening; but scraping them with the knife caused the instrument to become coated with a yellowish-white greasy covering.

The microscopic examination fully confirmed the diagnosis of cancer. Meyer emphasises the absence of metastatic lesions.—*Annales de Méd. Vét.*

W. R. C.

Royal College of Veterinary Surgeons.

FIRST MEETING OF COUNCIL.

A meeting of Council was held at the College, 10 Red Lion Square, London, W.C., on Friday afternoon, 7th July, 1911. Mr. W. Freeman Barrett, President, occupied the chair and the following members were present: Sir John M'Fadyean; Maj.-General Thomson, C.B.; Col. Duck, K.C.B.; Professors Bradley, McCall, Mettam; Messrs. Abson, Banham, Carter, Dunstan, Garnett, Hobday, Lawson, Lloyd, Mcl. McCall, McKinna, Mulvey, Roberts, Rutherford, Slocock, Stockman, Sumner, Wharam; Mr. G. Thatcher, Solicitor; and Mr. Fred Bullock, Secretary.

MINUTES.

On the motion of Mr. Lawson, seconded by Mr. Abson, the minutes of the last meeting were taken as read and confirmed.

ELECTION OF PRESIDENT.

Prof. McCALL: Mr. President and gentlemen, I rise with very great pleasure to propose that Mr. Villar be appointed the President of the College for the ensuing year. I do so principally on two grounds: firstly, that Mr. Villar by seniority of membership is entitled to that honour; but I do it still further, and on even more public basis, that Mr. Villar has during all these years—I think about twelve years—been a most regular attender at our meetings. Not only so, but he has also been Chairman of several Committees, and I am quite sure everyone sitting round the table will acknowledge that he has brought to the discharge of those duties great tact as well as ability. For those reasons I have great pleasure in proposing that he be elected President.

Mr. McKINNA: I have very great pleasure in seconding the motion, that Mr. Villar be elected President of the College for the ensuing year. (Several Members: "He is not here.")

Mr. GARNETT: Mr. Villar assured me yesterday that he would not accept the office.

The PRESIDENT: I should like to say that I am pleased Mr. Villar has been proposed as President, but I myself had some conversation with him yesterday, and he informed me that, owing to the condition of his health, he felt he ought not to accept this honour. I do not know what course I ought to pursue in his absence; he is not here, unfortunately, to speak for himself; but that is the purport of the conversation I had with him yesterday. Are there any other nominations?

Mr. MULVEY: After the statement made by our President, and from what I have gathered from other members of the Council, it seems apparent that Mr. Villar does not feel himself in a position to accept the Presidency of this College. I therefore beg to submit to the Council the name of Prof. Mettam. (Hear, hear). Prof. Mettam is known to all of you. He has been a Member of the Council for many years. He occupies the position of Principal of the Royal Veterinary College in Dublin. He is a man well known for his scientific attainments, and for the position he has taken on this Council. He has been an active worker, and he has attended every meeting of the Committees and of the Council that he could. I should also like to add that we have elected as President members from the various countries, but I do not think Ireland has ever been honoured by having a President elected from their number. I therefore have very great pleasure in proposing Prof. Mettam as the President for the ensuing year. (Hear, hear).

Mr. LAWSON: I have great pleasure in seconding that.

The PRESIDENT: Are there any further nominations? In the absence of Mr. Villar, especially after what he said to me, I do not think I ought to allow his nomination to go any further. May I therefore ask Prof. McCall to withdraw the nomination of Mr. Villar?

Prof. McCALL: I shall be pleased to do so in view of what you say.

Mr. McKINNA: Would it not be a graceful act, knowing that that is so, to pass the resolution that, in the event of Mr. Villar not assenting to accept the Presidency which we wish to offer to him, that Prof. Mettam be elected President?

Mr. MULVEY: You cannot do that.

The PRESIDENT: I am advised I ought not to accept the nomination in Mr. Villar's absence after what he has said, so that perhaps you will kindly withdraw your seconding of the nomination.

Mr. McKINNA: Certainly.

The PRESIDENT: Are there any other nominations? If not I put the motion that Prof. Mettam be elected President of the College for the ensuing year.

The resolution was then put and carried with acclamation.

The RETIRING PRESIDENT (Mr. Barrett), addressing Prof. Mettam, said: I have very great pleasure in announcing that you have been elected President of the Royal College of Veterinary Surgeons, and I have much pleasure in handing you the robe of office and the chain which accompanies it. I am quite sure that you will fulfil the duties of the Presidential Chair with the impartiality which has characterised the Presidents in the past.

Prof. Mettam was then invested with the Robe and Chain of Office, and took the Chair amid hearty cheering.

The PRESIDENT (Prof. Mettam): Gentlemen, I thank you very sincerely indeed for the great honour which you have paid me. I consider it not only a compliment to myself personally, and to the profession in Ireland, but also to the College at the head of which I have the good fortune to be, and to the teachers of the different Colleges generally. I hope that you will have no cause to regret your choice of President; and anything that I can do to uphold the dignity of the Chair and to follow in the footsteps of my predecessors I shall be most happy to do: indeed I shall deem it my duty to do so. I thank you again very much indeed, and I trust I shall receive your sympathy and your assistance while I have the honour of occupying this chair. (Cheers).

It is customary before proceeding to the election of six Vice-presidents to propose a vote of thanks to the retiring President.

Mr. MULVEY: Gentlemen, the duties of the President are very onerous, and I am sure it will be the pleasure of this Council to pass a very cordial vote of thanks to Mr. Barrett for the way in which he has carried out the duties of that office. I beg to propose a vote of thanks to Mr. Barrett.

Mr. McKINNA: I shall be very pleased indeed to second that motion. I am sure we have had a most excellent Preident, and I am confident this Council has in no way been disappointed at the able way in which the College has been represented during the year. I might also say that I congratulate our College that we were so ably represented at the Coronation. The recognition that we received at the hands of the Authorities I have personally felt as a dignity and an honour conferred upon the profession. I very heartily second the motion.

Sir JOHN M'FADYEAN: Although I feel quite sure that no further words are necessary in order to commend this Council the motion which has just been formally

proposed and seconded, I ask leave to be allowed to say a few words in support of it. (Hear, hear). Our newly elected President has just said it is customary to offer the thanks of the Council to the retiring President, but I want to emphasise the fact that at least in this case it is no empty formality. (Hear, hear). I wish to associate myself most fully with what has just been so well said by Mr. Mulvey and Mr. McKinna. I think it is very largely due to the personal influence of our late President that the business of the Council has been carried through with such smoothness and celerity. I am quite sure you will all agree with me when I say that everything he has had to do in connection with his office has been done in a manner reflecting further credit on the dignity of the chair. (Hear, hear). Apart from what might be called the ordinary routine business which this Council has to transact, our principal anxiety during the past year has been in connection with the Bill which we have promoted in Parliament. Unfortunately, the Bill so far has not made very great progress, but that is, I venture to say, due to circumstances over which we have very little control. As Chairman of the Committee which has had special charge of the Bill, I have had better opportunities than most members of the Council of observing the whole-hearted manner in which our late President has sought to secure the passing of this Bill into law, and for what he has done in that connection this Council and the profession at large owe him a debt of gratitude. (Hear, hear); and my principal purpose in rising was to give public expression to our sense of that duty. (Cheers).

The PRESIDENT: I shall not put this resolution; we will carry it by acclamation.

The resolution was then put, and carried by acclamation.

Mr. BARRETT, who was received with cheers on rising to reply, said: Mr. Mulvey, Mr. McKinna, Sir John M'Fadyean and gentlemen, I desire to thank you very much for the cordial vote of thanks which you have carried by acclamation. I confess to you at once that that has pleased me very much, because there is no gainsaying the fact that twelve months ago, when you conferred the very distinguished honour upon me of making me your President, I entered upon the duties of the office with some misgiving. I did that because I was called to the Chair perhaps in exceptional circumstances. There were some sitting round this table who doubted my patriotism to the profession, forgetting that although I belong to another profession this, after all, is the profession which I love and which I always desire to be attached to. (Hear, hear.) I am peculiarly gratified at the remarks which have fallen from Sir John M'Fadyean, because his announcement to you that, during my year of Presidential office, I have carried out loyally and patriotically the promise which I made to you is an indication to me that one and all of you feel that I have done my very best for the profession and for the Council which I have had the honour to represent. To me it has been a source of anxiety that the Bill which is now before Parliament has made such slow progress, but you have it from Sir John M'Fadyean—and therefore I need not repeat it—that we all of us have done what we can in order to further the objects of the Bill. The House of Commons has been very much congested with business, and we have not had much voice in the matter. It is a source of intense gratification to me, if I may say so, to feel that I have merited your approbation for what I have done. I have not done very much. By my influence, perhaps, I procured the assistance—if I may say so the valued assistance—of Sir Frederick Low, and I would like to testify to you openly that this gentleman in my view is taking a very great interest in our measure and has done everything he possibly could to further the interests of the Bill. (Hear, hear.) Gentlemen, I feel I ought not to sit down without referring to two

gentlemen who are in this room now. I refer first of all to Mr. Thatcher. I confess to you at once during the last few months I have not been in very good health; I have been over-taxed with work, professional work and municipal work, and the responsibilities of the office of President; and I have some misgivings—they certainly exist in my own mind—that perhaps I have not been quite as active as I ought to have been. That I have been patriotic and honourable to the profession there cannot be the least question, but I have put upon Mr. Thatcher's shoulders perhaps greater responsibilities than he could have been asked to perform, and I wish now to testify to the very great interest he has taken in this measure. He has seen Sir Frederick Low several times with regard to the Bill, and he has interviewed Members of Parliament. He has converted those who were at one time opposed to the measure, and he has been largely instrumental in propitiating, in diminishing—if I may use the term—the opposition of the Highland and Agricultural Society. Gentlemen, I say this to you: You never can sufficiently repay Mr. Thatcher for what he has done, and I desire, at the close of my Presidential year, to testify to him my appreciation of his kindness on my behalf.

Then, sir, during the past year I have really had very little trouble in connection with the work of the College owing to the assiduous and efficient attention which has been given to the business of the College by Mr. Bullock (Hear, hear.) He has saved me in every possible way. I would like to say that in him we have a most excellent Secretary, and I, personally, in the presence of you all, desire to thank him for what he has done for me.

In conclusion, I should like to say that I very much appreciate the honour which you conferred upon me last year. I suppose it is a laudable ambition that a countryman, a man born in a little village, should attain to the position of the Presidential Chair, and I feel that honour very much. I am even more gratified that, at the close of my term of office, I have met with your approbation. (Cheers.)

ELECTION OF SIX VICE-PRESIDENTS.

On the motion of Mr. Abson, seconded by Mr. Sumner, the following six members were elected Vice-Presidents: Messrs. Barrett, Carter, Dunstan, Hobday, Roberts, and Slocock.

ELECTION OF TREASURER.

Mr. LAWSON: I beg to move the re-election of Mr. Mulvey as Treasurer of the College. He has been the Treasurer ever since our friend Mr. Wragg died, and I believe he has given satisfaction to the whole of the Council and the profession at large. He has been on a bed of sickness for a month or two, and we are very glad to see him back again with us in good health. His greatest difficulty always is to find money. He is always working on the economical side, and pointing out to us the various ways in which we are spending money. If he could only increase it instead of decreasing it I think he would be happy. (Laughter). Gentlemen, I have the greatest possible pleasure in moving the re-election of Mr. Mulvey.

Mr. ROBERTS: I should like to have the opportunity of seconding the proposition. The Members of the Finance Committee know well that Mr. Mulvey husbands the finances of the College, and it is a great personal pleasure to me to be able to second the motion.

The resolution was then put and carried with acclamation.

Mr. MULVEY, who was received with cheers on rising to reply, said: Gentlemen, I can only thank you for the honour you have once more conferred upon me. As Mr. Lawson has pointed out, the difficulty always is to obtain funds to carry on the work of this College. I only hope that this newly-elected Council will devise some means for increasing the funds that we can use.

ELECTION OF SECRETARY AND REGISTRAR.

Mr. BARRETT: May I have the pleasure of rising to move the re-election of Mr. Bullock as Secretary and Registrar. After what I said a moment ago, I do not think I need say very much. He is a most excellent officer, and I am quite sure he will be unanimously re-elected.

Mr. MULVEY: As one who has worked with Mr. Bullock ever since his appointment I desire to second the motion, and to add my meed of praise for the way in which he carries out his work.

The resolution was put and carried with acclamation.

The SECRETARY (Mr. F. Bullock): Gentlemen, I thank you very much for your re-election.

This concluded the business of the meeting.

QUARTERLY MEETING.

A quarterly meeting of Council was held immediately following the above meeting.

The PRESIDENT occupied the chair, and the same members were present as at the previous meeting.

MINUTES.

On the motion of Mr. Barrett, seconded by Major-General Thomson, the minutes of the last meeting were taken as read and confirmed.

APOLOGIES FOR ABSENCE.

The SECRETARY announced that communications, regretting their inability to attend, had been received from Messrs. Dewar, Mason, Trigger, Villar, and Williams.

OBITUARY.

The SECRETARY read the obituary list.

ADMISSION TO MEMBERSHIP.

The SECRETARY read the following list of new members admitted since the previous quarterly meeting:—*Edinburgh College*.—Messrs. L. A. Auchterlonie, W. D. Connochie, W. Halstead, D. A. Hosford, J. B. Idle, W. J. E. Mackenzie, C. Masson, R. E. Murison, P. B. Riley, H. L. Torrance, R. Wooff.

Glasgow College.—Messrs. J. Cunningham, H. McC. Johnston, P. Meikle.

London College.—Mr. H. D. Sparrow.

Liverpool College.—Mr. H. L. Sowerby.

CORRESPONDENCE.

The SECRETARY read a letter from Mr. R. H. Lambert, in which he conveyed the sincere thanks of his mother and himself to the Council for their very kind expression of sympathy and condolence in their recent bereavement.

The SECRETARY read a letter dated April 13th, 1911, from Mr. G. P. Male, Secretary of the Royal Counties Veterinary Medical Association, which stated that at the last meeting of that Association the following resolution was unanimously adopted, and he was requested to place the same before the Council of the Royal College:—"That the members of the Royal Counties V.M.A. unanimously request the Council of the Royal College of Veterinary Surgeons to do everything in their power with a view to obtaining a rebate off the Petrol and Motor Taxes for members of the veterinary profession to the same extent as has already been granted to the sister medical profession."

The SECRETARY announced that he had received a programme of the Seventh International Tuberculosis Congress to be held in Rome on September 7th next.

RIGHT OF WAY.

The SECRETARY: I have to report that, in accordance with annual custom, I passed through the doorway into

Yorkshire Grey Yard in order to establish the right of way.

PRESENTATIONS TO THE LIBRARY.

The SECRETARY announced that the following presentations had been made to the Library since the last meeting of Council:—Calendar of the College of Preceptors, 1911-12; Twenty-sixth Annual Report of the Bureau of Animal Industry, 1909; Union of South Africa, Department of Agriculture, Report of the Government Veterinary Bacteriologist for the year 1909-10; Reports of the Council and Auditors of the Zoological Society of London for the year 1910; *The Rhodesian Agricultural Journal*, April, 1911; *Journal of the Board of Agriculture*, April, May and June, 1911, together with General Indexes for Volumes I-X. and XI-XVII.; Leaflets of the Board of Agriculture and Fisheries; *The Journal of Meat and Milk Hygiene*, April, May, and June, 1911; Bulletins of the Sleeping Sickness Bureau, April and May, 1911; Bulletin of the Yellow Fever Bureau, May, 1911; *Revue de Pathologie Comparée*, March, April, and May, 1911; *The Veterinary Journal*, *The Veterinary News*, and *The Veterinary Record* for the quarter.

On the motion of Mr. Mulvey, seconded by Major-General Thompson, a hearty vote of thanks was accorded to the respective donors.

FINANCE COMMITTEE.

The SECRETARY read the following report of a meeting of the Finance Committee held on Friday, June 7th, 1911:—

Financial Statement.—The TREASURER submitted the quarterly financial statement, showing a deficit of £364 15s. 5d., and further liabilities amounting to £203 2s. 11d.

It was resolved that the Treasurer be ordered to pay the liabilities due, together with cheques for monthly salaries, examiners' fees and expenses, and examination expenses, London, Liverpool, and Dublin, for gas and electric light, and an additional account which had been received from the Solicitors acting on behalf of the trustees of Mr. J. F. Simpson, the settlement of which was left in the hands of the Treasurer and Solicitor.

Overdraft. The Treasurer reported that he had been unable to agree to the terms proposed for the guarantee of £1,000, and that he would therefore be under the necessity of selling out Consols to that amount, in accordance with the resolution of Council in January last.

Auditor's Report. The Treasurer stated that the auditors had reported that the books of the College were kept in good order, and that the accounts and vouchers were correct.

Donations. The Secretary reported that further donations amounting to £13 13s. had been received, making a total amount received of £90 6s.

And it was resolved that the thanks of the Council be accorded to the respective donors.

Trustees. It was reported that the proceedings for the transfer of the Stock held by the College into the names of Sir John M'Fadyean, and Messrs. R. C. Trigger and A. Lawson, had now been completed.

Memorial Funds. The Secretary reported that the Walley Memorial and Jubilee Memorial Prize Funds had been transferred to the jurisdiction of the Charity Commissioners.

He further stated that the income from the respective funds would now be received by the College without deduction of Income Tax.

Mr. LAWSON: I move that the report be received and adopted.

Mr. SUMNER: I second that.

Mr. MULVEY: Before you put that motion to the meeting, there are one or two remarks connected with

the finances of the College that I think I ought to make. The first is, that the total of the liabilities is not quite fully stated in the report of the Committee. Since this account was drawn up I have received a further account amounting to £7 6s. 2d. for the solicitor's charges *re* trusteeship; bank charges amounting to £6 12s.; a Power of Attorney amounting to 11 6, and brokerage fees of £5 1s. 3d., making a total of liabilities of £587 9s. 3d. I mention that so that you may be in the position to understand that, although I propose now to sell out £1000 worth of Consols, which will realise some £780, we shall not be in a very flattering condition even then. We shall have to repay the Bank an overdraft of £570, which will only leave us some £200 to work with. So that I want this Council fully to understand that, at its next quarterly meeting, the probabilities are I shall have to ask for power to sell another £1000 worth of Consols, so that unless we have further funds coming in, our £8000 will not last very long. Every year our financial position is getting worse. The auditor in his report drew my attention to the fact that no provision had been made for the deterioration or dilapidation which is necessarily occurring to this building, and we must remember that in a very short time we shall have to find a certain amount for substantial repairs. That has to be faced. I think the profession must now admit that we are not in quite as flourishing a condition as either they or the members of this Council would desire that we should be. Every effort has been made to curtail expenses, and I see very little chance of making them any less. There is only one little item that I should like to refer to—and I am very sorry to have to refer to it. Our examination expenses do not get any less, and if we could only persuade Prof. McCall and those who act with him to agree to having one centre of examination in Scotland, as we have tried to induce him to agree to on several occasions, it would be certainly a means of saving this College a certain amount every year. With those remarks, gentlemen, I must leave the matter in your hands.

The resolution for the adoption of the Report was then put and carried.

REGISTRATION COMMITTEE.

The SECRETARY read the Report of a meeting of the Registration Committee held on July 6th, which stated that under the head of Correspondence four complaints were dealt with, and the Secretary was instructed with regard to the reply to be sent in each case.

Cases. Thirteen cases were dealt with by the Committee, and the Solicitor or Secretary were instructed with regard to the course to be pursued in each.

College Arms. The Solicitor asked for instructions for the reply to a letter received asking for information, which he was instructed not to supply.

Witnesses' Fees. A letter was received from Mr. Abraham Green raising a question with regard to witnesses' fees payable in the County Court.

It was resolved that the Secretary be instructed to reply that the general rule is that witnesses are entitled to fees and allowances as are set out in the scale applicable to the tribunal before which they give evidence, and this applies to veterinary surgeons the same as to other people.

With regard to expert evidence, or matters of opinion and not of actual fact, the witness is not bound to give evidence, except he is reasonably remunerated, and he can refuse to do so; his proper course is to mention his objection to a judge. An expert witness should always however make his bargain beforehand, both for qualifying and giving evidence.

Maj.-Gen. THOMPSON: I propose that the Report be adopted.

Mr. GARNETT: Before the Report is adopted, there is one matter I think it would be advisable that this

Council should have placed before them. I move, therefore, that the Council resolve itself into Committee to consider a case of professional misconduct which should be dealt with at this meeting.

Mr. ABSON: I beg to second that.

The resolution was put and carried.

The Council then resolved itself into Committee, and on the resumption of the Council meeting, General Thomson moved that the Report of the Registration Committee, with the addition of the result arrived at during the recent deliberation of the Council in Committee, be received and adopted.

Mr. BARRETT seconded the motion, which was carried.

EXAMINATION COMMITTEE.

The SECRETARY read the following Report of a meeting of the Examination Committee held on Thursday, July 6th:—

Reports on the Scotch Examinations. The Reports of the Delegates, Chairmen of the Board of Examiners, and the Local Secretaries were read and considered, and it was resolved—

That a letter of thanks be forwarded to the Glasgow and West of Scotland Technical College for the use of the room for the Written Examination.

Educational Certificates. (a) Educational Certificates Nos. 1183 to 1185 were received and accepted.

(b) The Secretary reported that a further certificate of a candidate desiring to sit at the forthcoming examinations was yet to be received.

And it was resolved that the Chairman of the Committee and the Secretary be empowered to accept it if it complies with the bye-laws.

Correspondence. A letter was received from Mr. W. Robb stating that on account of the illness of his father, he would be unable to act as Examiner at the forthcoming examinations. The Secretary reported that, after consultation with the President, arrangements had been made for Mr. W. Cargill Patrick to act in his stead.

And it was resolved (a) that the action of the President be approved.

(b) That in any case where an Examiner is unable to act for any part of the Examination, he be required to give due notice to the Secretary, and that a substitute be appointed to act in his stead at each centre at which the Examination is to be held.

Edinburgh University Ordinance. It was resolved that copies of the Edinburgh University Ordinance be obtained and submitted to the Examination Committee at the next meeting.

Examination Bye-laws. The Examination Bye-laws were further considered.

And it was resolved that the matter be deferred for further consideration at the next meeting.

Examination Questions. It was resolved—

(a) That the Secretary be instructed to print the names of the Examiners at the head of each examination paper, and to supply copies of past questions to students and others at a charge to be decided upon.

(b) That the questions set in each year be published as an appendix to the Register.

On the motion of Mr. LAWSON, seconded by Major-General THOMPSON, the Report was received and adopted.

ANNUAL FEE COMMITTEE.

Sir JOHN McFADYEAN read the following Report of a meeting of the Annual Fee Committee, held on Thursday, July 6th.

Draft Amendment Bill. (a) The Secretary read a letter received from the Highland and Agricultural Society stating that the Society had decided to withdraw their opposition to the Bill under certain conditions.

It was resolved that, in the opinion of this Committee, as the matter is one which requires very serious consideration, it be referred to the President, Chairman of Committee, and the Solicitor, with instructions to continue negotiations with the Highland and Agricultural Society, and to endeavour to obtain the consent of the Society to reconsider, and if possible to withdraw, or modify the stipulations contained in their resolutions.

(b) The Solicitor reported that the second reading of the Amendment Bill had not yet been reached, and that no information is obtainable as to when it would next be considered.

Mr. THATCHER: I can amend that report by saying the Bill will come on next Monday, or it is down for reading next Monday.

On the motion of Sir John M'Fadyean, seconded by Major-General Thomson, the Report was received and adopted.

PUBLICATION COMMITTEE.

The SECRETARY read the Report of a meeting of the Publication Committee, held on Monday, May 8th, which stated that the Annual Report was considered, and after emendation was approved.

The Secretary also submitted the draft of the voting paper to be issued on May 24th, which was duly approved.

On the motion of Mr. Mulvey, seconded by Major-General Thomson, the report was received and adopted.

MELBOURNE UNIVERSITY DEGREE COMMITTEE.

The SECRETARY read the following Report of a meeting of the Melbourne University Degree Committee, held on Thursday, July 6th.

Melbourne Veterinary Degree. A letter (4/5/11) was received from the Colonial Secretary, together with a communication (11/3/11) from the Premier of Victoria, containing information with regard to the course of instruction and subjects of examination for the Degree in Veterinary Science granted by the Melbourne University.

It was resolved that the Secretary be instructed to reply in the following terms:—

Sir,—The Council regret that the information supplied in the despatch from the Premier of Victoria which accompanied the Agent General's letter does not lend them to think that the Veterinary Degree of the University of Melbourne is one which they ought to recognise in accordance with Section 13, sub-section (3) of the Veterinary Surgeons Act, 1881.

As stated in my letter of the 21st July, 1909, the Council have always interpreted that portion of the Act to mean that they must "recognise" any veterinary diploma granted in a British possession if they are satisfied that the diploma in question is as a guaranty of professional competence equal to the Membership Diploma of the Royal College of Veterinary Surgeons.

The value of the diploma granted by this College as a guaranty of professional knowledge and competence depends upon two things which are mutually complementary, namely:—

1. Every candidate for the diploma must, for a specified period, attend prescribed courses of study at one of the Veterinary Schools in Great Britain or Ireland which are affiliated to the Royal College of Veterinary Surgeons.

2. Every candidate must pass professional examinations which are conducted by a Board appointed by and under the supervision of this Council.

In the opinion of the Council it is especially in respect of the second of these that the Veterinary Degree of the University of Melbourne fails to afford a guaranty of professional competence equal to that of the diploma of the Royal College of Veterinary Surgeons. The Examining Board appointed by this College comprises twenty-

two members, all of whom are appointed because of their recognised eminence in the particular subject on which they have to examine, and, in accordance with an express provision of the Charter from which the College derives its powers to examine students and grant diplomas (original Charter of 1844), the professors in the several affiliated Colleges are debarred from taking any part in the examination of their own students. It ought to be added that during the last twenty years the Board has always comprised two examiners (both professional experts) for each subject of the curriculum. From its constitution, therefore, the Board affords a guaranty that the candidates for the diploma will in each subject be examined by two experts who are free from the interest or bias which is likely to have an influence when a teacher is asked to judge of the competence of his own students.

The constitution of the Board which examines candidates for the veterinary degree of the Melbourne University is, however, different from this, and in the opinion of my Council open to serious objection. In the Premier's letter of the 11th March last it is stated that the Examiners "are the whole body of teachers sitting as a Board," and, as there is only one teacher for each subject, and the teacher in one subject cannot be regarded as competent to examine in any other (*e.g.* the Professor of Chemistry to examine in Veterinary Pathology), it follows that the sole judge of a candidate's competence in any subject is the single Professor who has instructed him in that subject.

In other words the system of examination is the very one which is expressly forbidden in the Charter of the Royal College of Veterinary Surgeons, and which it would not be lawful for the Council to sanction in the case of veterinary students who receive their education in Great Britain or Ireland.—I am, sir, your obedient servant,

(Signed) F. BULLOCK, *Secretary.*

On the motion of Prof. McCall, seconded by Sir John M'Fadyean, the report was adopted.

APPOINTMENT OF COMMITTEES FOR THE YEAR.

Mr. LLOYD: Before we appoint the members of the Committees I would like to call attention to the peculiar, if not anomalous representation of members of the Council on the different Committees. In an idle moment I took the trouble to go through the list of Committees and note the various Committees upon which certain members had seats. In the list for 1909-10, excluding the President and the Registration Committee, which is composed of the whole of the Council, I found there were nine Committees with a total of 117 seats. Seven members between them—taking five as the minimum held by one member—held 47 seats, which equals 40.1 per cent. of the total. The other 24 members held 70 seats between them, equal to 59.9 per cent. Now taking 1910-11, and again excluding the President and the Registration Committee, there were eight Committees with a total of 109 seats between them. I find that seven members—the same seven as in the previous year—held 43 seats, equal to 39.4 per cent. of the total; and the other 24 members held 66 seats, equal to 60.6 per cent. The matter is one which I think requires a little consideration on behalf of the members of this Council. I, personally, at any rate, look upon it as a waste of time to come here, we will say, to the Registration Committee at 2 o'clock on a Thursday and after the conclusion of the meeting of that Committee waste the whole of the afternoon, whereas I might be taking an active part in the work of the Council. I do not know whether any other gentleman present feels it in that way, but certainly that is my feeling. You may possibly ask me, What is the remedy? Three things occurred to my mind. The first was that

all Committees shall consist of the whole of the Council. I should probably meet with the objection, if I suggested that, that any Committee so formed would be unwieldy. That objection of course applies to the Registration Committee, as at present formed, and I do not think it would carry any more weight with regard to any other Committee than it does to that one. The second remedy would be to limit the number of Committees that any one member should have a seat on. I do not know whether that is at all practicable. If it is I think it would perhaps be an easy out of the difficulty. A third way, which I think probably would be the best, would be that gentlemen who are over-represented, as I have stated, on various Committees, should use their good sense and withdraw, so that they would not hold the membership of more than a certain number of Committees. I am not going to make any proposition; I simply throw out the suggestion for what it is worth, and I ask you seriously to consider it.

Sir JOHN M'FADYEAN: I should like to suggest, Mr. President, that a misunderstanding or misconception underlies the remarks that have just been made by Mr. Lloyd. I may have misunderstood him, but it seemed to me that what he said would justify one in inferring that, in his belief, the Council appointed members to serve on Committees in order to do these members an honour. That I think is quite a mistaken view of the matter. (Hear, hear.) The sole consideration which ought to guide the Council is what constitution of a Committee will best secure that the business of that Committee is transacted in the best manner—(hear, hear)—and while I should cordially agree with Mr. Lloyd's suggestion that it is well worthy of consideration whether some of the Committees are not at present too large, I do not think the Council should tie its hands in any way with regard to the composition of the Committees. I should support what Mr. Lloyd has said as regards the desirability of limiting the size of some of the Committees, but not that we should pass any resolution that a member should not serve on more than a certain number of Committees.

Mr. GARNETT: I think it would facilitate business if I propose that, with the exception of the Registration Committee, no Committee shall exceed in number 16 members. I moved in that respect two or three years ago, and the motion was carried, but the rule has been broken through again, and we now have very large Committees. To my mind it is improper that any Committee should consist of a majority of the Council, because it means that if those Committeemen have a majority greater than the members of the Council, they practically resolve themselves into the Council, and the minority have no voice at all. I propose that no Committee, with the exception of the Registration Committee, exceed 16 members.

Mr. LLOYD: I am quite prepared to second Mr. Garnett's proposal if he will accept also a number as a minimum for the members of any Committee.

Mr. GARNETT: You must leave that in the hands of the Council. The Council might want to appoint a small Committee to deal with a special object.

Mr. LLOYD: I am speaking of standing Committees; I am not speaking of any special Committee. I am not taking special Committees into consideration in any shape whatever. If I am in order I propose that the minimum number for any standing Committee be 12.

Mr. WHARAM: I beg to second Mr. Garnett's proposition.

Mr. MCKINNA: When we have had a congestion of business we have got out of the difficulty by proposing the election of Sub-committees, and that has acted very well. The Report of the Sub-committee has been brought forward to the next meeting of the full Committee, which has dealt with the matter. As to the Registration Committee I, for one, would not be agree-

able to any suggestion that the whole Council should not share the responsibility of the work that it does.

Mr. GARNETT: In reply to Mr. McKinna, I might say that we have found the Parliamentary Committee very unwieldy, and it is very inconvenient to delegate powers to a Sub-committee. We had to do our business in a rather irregular manner, as Mr. McKinna knows, on one or two occasions during the past year, owing to the necessity of delegating power to Sub-committees which had not time to report to the Main Committee before reporting to the Council.

Sir JOHN M'FADYEAN: On a point of order I would like to enquire whether we have any power to lay down such a regulation except with regard to our action on this occasion. I take it we cannot tie the hands of the Council in this matter unless it were a new bye-law which were being moved of which formal notice had to be given. We can only pledge ourselves to act in conformity with this regulation on this occasion.

The PRESIDENT: Yes, that is so. It is proposed by Mr. Garnett and seconded by Mr. Wharam, that with the exception of the Registration Committee the number of members on a Committee shall not exceed 16.

The SOLICITOR: I have to call the attention of the Council to the bye-law on the subject. Bye-law 18, which deals with this matter, says, "All standing Committees shall consist of not less than seven members, of whom three shall form a quorum."

Mr. GARNETT's motion was then put and carried.

The following Committees were then appointed:—

REGISTRATION COMMITTEE.

The whole Council.

EXAMINATION COMMITTEE.

Messrs. O. C. Bradley, J. H. Carter, F. Duck, J. Dunstan, F. T. G. Hobday, J. S. Lloyd, J. McCall, Sir J. M'Fadyean, J. McKinna, W. J. Mulvey, R. Roberts, S. Stockman, H. Sumner, H. Thomson, S. Villar, W. O. Williams.

FINANCE COMMITTEE.

Messrs. J. Abson, W. F. Barrett, O. C. Bradley, F. W. Garnett, A. Lawson, J. S. Lloyd, J. McKinna, A. W. Mason, W. J. Mulvey, R. Roberts, R. Rutherford, W. Shipley, H. Sumner, R. C. Trigger, S. Wharam, W. O. Williams.

PARLIAMENTARY AND GENERAL PURPOSES COMMITTEE.

Messrs. J. Abson, W. F. Barrett, O. C. Bradley, J. H. Carter, F. W. Garnett, A. Lawson, Sir John M'Fadyean, J. McKinna, A. W. Mason, W. S. Mulvey, J. S. Lloyd, R. Roberts, S. Stockman, H. Sumner, H. Thomson, W. O. Williams.

ANNUAL FEE COMMITTEE.

Messrs. W. F. Barrett, F. W. Garnett, J. McCall, Sir J. M'Fadyean, W. S. Mulvey, H. Sumner, H. Thomson, R. C. Trigger.

LIBRARY AND MUSEUM COMMITTEE.

Messrs. J. Abson, G. A. Banham, O. C. Bradley, J. H. Carter, J. Dunstan, F. T. G. Hobday, Sir J. M'Fadyean, W. J. Mulvey, E. S. Shave, S. H. Slocock, S. Wharam, W. O. Williams.

PUBLICATION COMMITTEE.

Messrs. J. Abson, J. McCall, J. McI. McCall, Sir J. M'Fadyean, W. J. Mulvey, J. S. Lloyd, R. Roberts, S. Stockman, S. Villar, S. Wharam, W. O. Williams.

STEEL MEMORIAL COMMITTEE.

Messrs. J. Abson, O. C. Bradley, J. McCall, Sir J. M'Fadyean, W. J. Mulvey, R. C. Trigger, R. Roberts.

HONORARY ASSOCIATES COMMITTEE.

Messrs. G. A. Banham, O. C. Bradley, J. R. U. Dewar, A. Lawson, J. McCall, Sir John M'Fadyean, S. Stockman.

ELECTION OF AUDITORS.

Mr. MULVEY: I beg to propose the re-election of Messrs. Woodhouse and Wilkinson as auditors. They have heretofore performed their duties in a very satisfactory manner, and I therefore propose that they be re-elected.

Mr. ROBERTS seconded the motion, which was carried unanimously.

DATES OF COUNCIL AND COMMITTEE MEETINGS AND EXAMINATIONS DURING THE ENSUING YEAR.

The following dates were fixed for the Committee and Council meetings: 1911, October 12th and 13th; 1912, January 11th and 12th; April 11th and 12th; July 4th and 5th.

Prof. M'FADYEAN: With regard to the dates of the examinations, I would suggest that we should select the nearest corresponding dates to last year. I would therefore move that the Written Examinations in December be held on the 8th, the Oral Examinations to begin on the 12th. I would like to point out that if we select those dates it will be necessary for the Colleges to open on the first available day in October.

Mr. BARRETT seconded the motion, which was carried.

Prof. MCCALL: I will move that the Written Examination in May be held on the 24th, the Oral Examinations to begin on the 28th.

Prof. BRADLEY seconded the motion, which was carried.

Sir JOHN M'FADYEAN: I move that the Written Examination in July be held on the 12th, the Oral Examinations to begin on the 16th.

Prof. MCCALL seconded the motion, which was carried.

DATE OF WALLEY MEMORIAL PRIZE EXAMINATION.

On the motion of Mr. Barrett, it was agreed that the Walley Memorial Prize Examination should be held on the Saturday before the opening day of the Colleges, namely, the 30th Sept., 1911.

FELLOWSHIP EXAMINATION.

It was resolved that the Fellowship Examinations should be held on the 2nd December, 1911, and the 18th May, 1912.

OTHER BUSINESS.

The SOLICITOR: This is not perhaps in order, as it is an application for the restoration of the name to the Register. The parties only came here late yesterday afternoon after the Registration Committee had adjourned. It is a matter of some importance to this gentleman to be able to practise at once, and I was asked whether, as a matter of indulgence, you would allow the application to be considered now. The application is made by Mr. John Winfield Reynolds, and the reason he has not applied before, and the way his name got taken off the Register, was because—"I did not receive the Notices owing to my being abroad, and the letters appear to have been neglected by the Post Office officials in Moravia." The declaration is in order.

Prof. HOBDAY: I know this gentlemen personally; he is an old College friend of mine.

Mr. MULVEY: If Mr. Thatcher assures us that the application is in order, I move that the name be restored.

Mr. MCKINNA: I second that.

Maj.-General THOMSON: Is it not necessary first of all for us to resolve ourselves into the Registration Committee to consider the application?

Mr. MULVEY: Not necessarily. The Council can do it.

Maj.-General THOMSON: I am quite satisfied. The resolution was put and carried.

VOTE OF THANKS TO THE PRESIDENT.

On the motion of Mr. McKinna, seconded by Prof. McCall, a hearty vote of thanks was accorded to the President for his conduct in the chair, which the President briefly acknowledged, and the meeting terminated.

INTERNATIONAL VETERINARY CONGRESS 1914.

A special meeting called by Sir John M'Fadyean and Mr. S. Stockman was held at 10, Red Lion Square, on Thursday, the 6th instant, when the following gentlemen attended:—Messrs. J. Abson, N. Almond, G. A. Banham, W. F. Barrett, F. Bullock, J. H. Carter, W. R. Clarke, A. Crabb, Sir F. Duck, J. Dunstan, F. W. Garnett, F. L. Gooch, W. L. Harrison, F. T. G. Hobday, W. Hunting, A. Lawson, J. S. Lloyd, J. McCall, Sir J. M'Fadyean, A. E. Mettam, R. Roberts, R. Rutherford, S. Stockman, H. Sumner, S. Villar, S. Wharam, J. Willett, A. Wilson, H. A. Woodruff and G. H. Wooldridge.

In opening the proceedings Sir John M'Fadyean said:

As perhaps some of you know, at the last meeting of the International Veterinary Congress, which was held at The Hague in 1909, Mr. Stockman and myself were appointed as an Organising Committee for the next Congress to be held in London in 1914, with power to add to our number. Possibly some may think that we were remiss in having allowed such an interval to elapse without doing anything to discharge the duty laid upon us, but I do not think that we are really guilty in that respect. It has to be remembered that the next Congress will not be held until 1914, and there appears to be ample time now to arrange all the business. My original idea was that Mr. Stockman and myself should constitute the Committee by co-opting all the members of Council on the Royal College of Veterinary Surgeons to begin with, and that the thing might then be allowed to proceed, the Committee as thus constituted adding any members that they thought wise. We have, however, thought it well to invite a few other gentlemen to join the Committee at the start, viz., Profs. Macqueen, Woodruff, and Wooldridge, Messrs. J. G. Bell, F. G. Samson, M. Hedley, T. S. Price, W. Woods, F. L. Gooch, J. Willett, W. L. Harrison, W. Hunting, N. Almond, W. R. Clarke, J. J. Kelly, A. Crabb, A. I. McCallum, C. Stephenson, and F. Bullock. Invitations to attend this meeting have accordingly been sent to these gentlemen, as well as to the members of the Council of the R.C.V.S. I suggest that the first business of the committee should be to appoint a Chairman, a Secretary, and a Treasurer.

Mr. BARRETT then moved, and Principal McCall seconded, that Sir John M'Fadyean be elected Chairman, and on being put to the meeting this was carried. Sir John M'Fadyean having taken the Chair, Mr. Barrett moved, and Mr. Banham seconded, that Mr. Stockman be appointed Secretary. This also was carried, and on the motion of Mr. Banham, seconded by Mr. Lawson, Mr. Garnett was elected Treasurer.

The CHAIRMAN: I have had excuses for absence from Mr. Mason, Mr. Trigger, Prof. Macqueen, and Prof. Dewar. I would like to suggest as the next business that we should consider the propriety of enlarging the Organising Committee by co-opting still further members. I throw out the suggestion that the Chairmen and Secretaries of the various Veterinary Societies should be appointed *ex-officio* members of the Organising Committee.

Mr. CARTER: I beg to second that.

The resolution that the Chairmen and Secretaries for the time being of the various Veterinary Societies be

elected *ex-officio* members of the Organising Committee, was then put to the meeting and carried.

The CHAIRMAN: I also propose that the present Director-General of the A.V.S., Major-General Pringle, be asked to join the Organising Committee.

Mr. ABSON seconded, and the motion was unanimously carried.

The CHAIRMAN: May I now say, gentlemen, that I think there is plenty of work for the Committee to set about immediately. I have already stated that it did not appear to Mr. Stockman and myself that there was any good in calling the Committee much earlier. But it is quite certain there is plenty of work now. The all-important work is to get in money. (Hear, hear.) I do not think there is really any other work for the Organising Committee to do during the next twelve months except to collect money. We cannot begin to make arrangements for holding meetings or reading of papers; we cannot proceed to decide what subjects are to be discussed at the Congress, or decide who is to be invited to read a paper on any particular subject, for about two years yet. It is not customary to decide such matters until a year before the Congress actually meet. But meanwhile we have got this all important business of raising money to tackle, and the question is, how much money shall we require to raise. Well, the amount of money that has been expended in connection with preceding Congresses has varied a good deal on different occasions, but I think the tendency has been for the holding of the Congress to become more expensive, and I have made a rough calculation that if the Congress is to be anything like as successful as recent Congresses have been, we shall require £5,000. It has to be remembered that there will probably be about 1,500 subscribing members who pay £1 each, so that is so much that will not have to be raised by voluntary subscriptions. But I am perfectly satisfied that the minimum sum which will enable us to carry the Congress through in addition to that got from regular subscriptions is from £3,000 to £3,500. And the next question is, where can we get that money? One may begin by indicating places where it is not to be had. One of these is from the Government. I have had it suggested that we should ask the Government for assistance to carry through the Congress. Gentlemen, I think that would be a waste of time and energy. We could not expect the Government of this country to create a new precedent in our favour. There have been many Congresses held in London within recent years, and I think I am right in saying that none of these have had any grant from Government for the purpose of carrying through their business. I cannot think of any body outside to whom we have any good right to appeal for assistance. This is a Veterinary Congress. It is an occasion on which we are called upon to return hospitality that has been dispensed to representatives of this country at preceding Congresses, and if there ever was an occasion this is one where members must put their hands into their pockets and subscribe as far as their means allow. It is a matter to which I have given a great deal of anxious thought ever since the day when Mr. Stockman and myself were appointed as a nucleus of this Committee, and I had the notion that it would be a good thing if at the first meeting of this Committee I were able to announce that I had a considerable sum of money already collected or promised. I had the idea that it might be possible to find nine other members to subscribe with myself £100 each, and that I should be able to announce: "Here is £1,000 to start this fund, and the rest of the profession has got to make up £1,500 or £2,000." I believe nearly a year ago I asked one member of the profession if he would be one of the ten; that was Dr. Clement Stephenson, of Newcastle, and he said he would. (Applause.) Since that time Mr. Salusbury Price, who is well known to

all members here, has promised his £100. (Applause.) There is £300 towards the thousand. One other gentleman, although he could not see his way to be one of the ten, promised £50, namely Mr. Inglis McCallum, of Edinburgh, and when one remembers Mr. McCallum's unprecedented generosity to the profession in other directions one cannot say that this subscription is not a handsome one. (Applause.) But I want it to be clearly understood that these subscriptions are absolutely conditional. Speaking for myself, I am not going to give anything like £100 unless nine other members give the same sum, and all the others who make the promise have made it on this condition. I am not going to ask across this table any member here to be one of the ten, but what I am now saying will, I dare say, be reported, at least in substance, and I want to make it an appeal to anybody in the profession who feels that he could be one of the ten without injustice to his own interests—I want to appeal to him to become one of the ten. It has been suggested to me by a gentleman who is not here that a hundred should agree to give £10. Now to suggest this as an alternative to the other scheme is to misunderstand my idea. I do not accept that as an alternative suggestion. I quite agree that somebody might try to induce a hundred members to give £10 each. The idea has my hearty good wishes, but it is not an alternative to my own one.

The point I want to refer to next is a rather important one. One of the bye-laws governing these International Veterinary Congresses is to the effect that any funds remaining over from one congress has to be handed over to the Organising Committee of the next Congress. It so happens that there is nothing to be handed over to us, and we do not desire to have any surplus after the London Congress. With a view to preventing such a thing it would be well to have a guarantee fund distinct from the amount unconditionally subscribed, and in asking nine other members to join with me in raising £1000 I have suggested to them that half of the sum should go to form a guarantee fund, and that the remaining half should be subscribed unconditionally.

That, gentlemen, is how the thing stands with regard to the raising of funds. I should like to suggest in that connection that an account be opened immediately with a bank, and that all sums subscribed towards the expenses of the Congress be paid into this bank in the joint names of Mr. Garnett and some other member whom this meeting will nominate, and that all disbursements should be by cheque signed by these two gentlemen. I think that would be a businesslike proceeding, and it has Mr. Garnett's approval. Will you suggest the name of a gentleman to act as co-trustee?

The name of Mr. R. Roberts was proposed, and it was decided that Mr. Roberts and Mr. Garnett be appointed Joint Trustees of the Fund.

Mr. BANHAM: Could you increase the number of men who are to be asked to subscribe the £1000?

The CHAIRMAN: I have no objection to getting ten who would give £50 as well. It may happen that it will be difficult to get another seven men to give £100. But I quite expect within a week to have the sums offered to me—otherwise I shall be very much disappointed.

Mr. LAWSON: May I ask if the members in other countries were as liberal as you expect the veterinary profession of this country to be? You are asking us now for a very large sum. We are not a very wealthy profession, and I know myself all over the country that the profession is not in a good position at the present moment, especially as they have other things to face in the next few years. I think yours is a very liberal offer, and all the others must be thanked. There are a great number in the profession who are not so wealthy as yourself, and others who may subscribe £10 or £20, but you are more likely to get £10 or £20 than those who

will be able to give £100. There may be a few, but I am speaking for the majority of the profession.

The CHAIRMAN: I hope nobody imagines that my appeal is general. I am very well aware that my appeal goes over the heads of two thousand nine hundred and fifty of the three thousand members in this country, and I should be ashamed to ask any of those men to put up £100. Perhaps Mr. Lawson is right in thinking there are not seven members remaining in the profession who could afford to subscribe £100, but that is not my opinion.

Prof. WOODRUFF: May I ask if there is any possibility of dividing your funds, the money raised, into that purely for entertainment, and that purely for the business part of the Congress.

The CHAIRMAN: Impossible, and very undesirable.

Mr. ABSON: Assuming we have £5000, how much of that amount do you propose to put on one side a guarantee fund?

The CHAIRMAN: I think very likely £500 would be a sufficient reserve.

Mr. BARRETT: May I ask what period you expect to elapse before we start spending?

The CHAIRMAN: The Secretary will have only small expenses during the next two years.

Mr. BARRETT: Would it not be well if members were asked to pay an annual subscription? Those who might not be able to afford it in a lump sum?

The CHAIRMAN: If some men are willing to give three sums of two guineas rather than a single sum of six guineas, our Treasurer will no doubt be glad to receive promises of future payments as well as present payments. We might begin to canvass immediately, and the subscriptions could be paid annually.

Mr. BARRETT: I raised the point that at the present time you don't require a large sum of money. It is not required immediately.

The CHAIRMAN: It is true that the whole of the money is not required immediately, but we should remember the old proverb "A bird in the hand is worth two in the bush."

Mr. ALMOND: How do you propose to get in the money?

The CHAIRMAN: By each of you subscribing in the first instance, and then attacking anybody you meet anywhere with "Have you subscribed to the funds for the International Veterinary Congress?"

Mr. ALMOND: I would suggest that a good many people should be elected to the Committee. There are a certain number of members who like to have something for their money. The mere honour of being on the Committee may help to open their purse strings.

The CHAIRMAN: I think it would be necessary to the sake of appearance and fashion. A horse that was limit such election to those subscribing £10. Otherwise the Committee might become unwieldy. In any event we shall have to consider the advisability of appointing an Executive Committee.

Mr. WHARAM: Bearing on this matter I might mention that some of the Veterinary Medical Associations are already moving. The Council of the Yorkshire V.M.A. the other day recommended to the Society that they should pay a sum, or put by a sum, of £10 10s. a year for three years. It will be passed next Friday at their summer meeting.

The CHAIRMAN: We hope the various Societies will give us annual subscriptions, if possible, for the three years.

Mr. HUNTING: I should like to propose that the collection of the money be by donations and annual subscriptions, and that all donors of £10 10s. should be members of the Organising Committee.

Mr. GOOCH: That would be unfair to subscribers, if only those who could afford ten guineas could be on the Committee.

The CHAIRMAN: We can put any man on the Committee we choose, but the payment of a subscription of ten guineas might give a man the right to become a member of the Committee.

This was agreed to, and after some informal discussion,

Mr. J. S. LLOYD: We shall soon be appealing for funds, but a large number of the members of the veterinary profession know very little about the Veterinary Congress. I suggest that it would be a good thing in issuing an appeal for funds if you were to ask the Secretary or any other member to give a short history of the International Veterinary Congresses, and send it out with the appeal. You would then get subscriptions from the rank and file who would otherwise perhaps not be inclined to pay.

There is another matter, in regard to the Local Veterinary Societies. Probably a number of the Veterinary Societies could club together to get up an entertainment. For instance the Congress might be invited to Cheshire and see the Duke of Westminster's seat at Eaton Hall, and perhaps to Tring, where are to be found perhaps the best stock in England. Also probably our Scotch friends might invite the Congress to Edinburgh.

Mr. STOCKMAN: I have the pleasure to announce that Mr. Roberts, on behalf of his firm, has agreed to subscribe £100 in three years. He was too modest to make the announcement himself. (Applause).

The CHAIRMAN: With regard to what Mr. Lloyd has just said, it will no doubt have to be considered whether the Secretary should not draw up an appeal and issue it to the whole of the members of the profession. We shall have to keep clamouring at the profession during the whole of the three years. On the whole I think that as a start we should endeavour to collect as much as possible by individual influence.

The meeting then terminated.

THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY.

The annual meeting was held at the Grand Hotel, Aytoun Street, Manchester, on Thursday, April 6th. W. A. Taylor, Esq., President in the chair. Present: Messrs. Woods, Somers, Elam, Clarkson, Sampson, Stent, Wolstenholme, Edwards, Hughes, Hopkin, Weston, and G. H. Locke.

The PRESIDENT, in his opening remarks, said that there was practically nothing new to mention, and that he thought, considering the usefulness of the Society, that it was strange that the number of members was not greater.

HON. SECRETARY'S REPORT.

Since our last annual meeting the Society has been continuing its useful work. The Council has had to deal with three defence cases: one being amicably settled, another abandoned and costs recovered, the third is pending, but appears likely to be dropped.

We have had about the usual number of benevolent cases to deal with, and financial assistance given and very gratefully acknowledged by the unfortunate applicants.

Our membership still remains about the same, not increasing, as one would expect for such a deserving organisation. During the past year we have enrolled ten new members, one resignation has been accepted, six members have died, and five names have been deleted for arrears, according to resolution passed at the last annual meeting, leaving a total of 257, Dec. 31st, 1910.

The HON. TREASURER, in his report, stated that the sum of £20 5s. had been spent in the defence of members, and the sum of £75 had been disbursed from the Benevolent Fund to nine recipients. The total amount of arrears December 31, 1910, was £26 15s. 6d., of which the sum of £14 14s. has been abandoned, and the sum of £12 1s. 6d. has been carried forward.

The balance sheet of both branches of the Society was received and adopted. The balance at Bankers, Dec. 31, 1910, was: Defence branch, £826, 4s. 1d.; Benevolent branch, £354 1s. Invested funds, £4,800. Total funds in both branches being £5,980 5s. 1d.

The Hon. Treasurer intimated that a Mersey Docks and Harbour Board Bond and two Mortgages with the Salford Corporation had fallen out this year, and would require to be re-invested. This matter was referred to Council.

OFFICERS FOR 1911.

Trustees. Messrs. A. W. Mason, T. Hopkin, R. S. Reynolds, and E. Faulkner.

President. Mr. W. A. Taylor, Manchester.

Vice-President. Mr. W. Woods, Wigan.

Hon. Treasurer. Mr. J. Wolstenholme, Quay Street, Manchester.

Hon. Secretary. Mr. G. H. Locke, Grosvenor Street, Oxford Road, Manchester.

Council. Messrs. A. Butters, London; J. Clarkson, Garforth, nr. Leeds; J. W. Coe, Stoke-on-Trent; E. Faulkner, Tedbar Hopkin, and A. Lawson, Manchester; A. W. Mason and F. W. Somers, Leeds; J. McKinna, Huddersfield; W. Shipley, Great Yarmouth; Henry Sumner, Liverpool; and R. C. Trigger, Newcastle-under-Lyme.

Auditors. Messrs. Litton, Pownall and Co., and J. H. Wright, M.R.C.V.S., Manchester.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders				Sheep Scab.	Swine Fever.	
	Outbreaks		Animals				(including Farcy)		Counties Affected				
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.	
U.K. BRITAIN.													
Week ended July 8	13		16		3	67	5	11			68	568	
Corresponding week in	1910	21		29			11	24	Berks 1	2	47	559	
	1909	22		24			5	15			3	47	612
	1908	12		22			22	55			London 9	39	196
Total for 27 weeks, 1911	488		508		4	85	109	283	Surrey 1	303	1400	15545	
Corresponding period in	1910	834		1010			189	525			317	778	7067
	1909	742		980			304	1186			459	958	8838
	1908	630		837	3	112	432	1369	629	1231	6264		

Board of Agriculture and Fisheries, July 11, 1911.

Parasitic Mange (outbreaks)

IRELAND.														
Week ended July 8	...	...	...	...	...	...	...	...	...	...	1	4	28	
Corresponding Week in	1910	...	1	1	...	...	...	...	2	...	1	2	69	
	1909	...	...	...	...	...	...	...	3	...	11	9	232	
	1908	...	...	...	...	...	...	...	...	...	4	7	98	
Total for 27 weeks, 1911	...	5	6	...	...	...	2	3	44	...	243	67	1002	
Corresponding period in	1910	5	8	...	...	...	1	2	38	...	334	59	1410	
	1909	3	3	...	...	...	...	...	52	...	296	59	1029	
	1908	4	7	...	...	...	...	...	25	...	269	117	2177	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 10, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Conviction for Docking.

At Tower Bridge before Mr. Cecil Chapman, William Hartley, jam manufacturer, of Green Wharf, Tower Bridge Road, was summoned for causing two horses to be ill-treated; his horsekeeper, John E. Miller, was summoned for ill-treating the horses. Mr. Stuart Bevan was instructed for the Royal Society for the Prevention of Cruelty to Animals; Mr. Curtis Bennett was for the defendants.

Inspector Allcorn, Royal Society for the Prevention of Cruelty to Animals, said that at the stables of Mr. Hartley he saw two horses, recently docked, Miller stating that this was done to smarten their appearance and strengthen their backs. Mr. Hartley, whom he saw later, said he knew that docking was done, but did not

know it was not allowed. He supplied Miller with the docking irons.

Cross-examined, the witness said most horses in London were docked. These horses were in good condition, and the operation had been properly performed.

Mr. William Hunting, F.R.C.V.S., an ex-President of the Royal College of Veterinary Surgeons, said that docking was not necessary either for the comfort or well-being of horses. It was only justifiable in a case where a horse was a leader of a team, or was attached to a tip-cart. The operation did not strengthen the back of the animal.

In cross-examination, the witness agreed that nine out of ten horses were docked, but in answer to Mr. Bevan, he said he had never seen a racehorse docked, and before

the South African War it was not the practice to buy docked horses for the Army.

Mr. Alexander Piesse, M.R.C.V.S., gave it as his opinion that docking was absolutely unnecessary, and extremely painful to the animal. It did not make driving less dangerous; it was, in fact, shaping the horse to the cart, and not the cart to the horse.

In cross-examination, the witness said there was a certain amount of danger of reins getting under long tails.

Mr. Curtis Bennett said that Mr. Hartley had fifty horses, and they were all docked. He did not know that it was wrong to dock them, and thought it was safer for driving about London streets to use docked horses. This was the first case of its kind in London, and counsel urged that as the docking was reasonably necessary there could be no conviction.

Mr. Cecil Chapman said there was nothing in the evidence to show that the practice was reasonably necessary. The docking of horses was founded upon ignorance, but, having become a custom, it prevailed long after the ignorance had been exposed. It was really done for the sake of appearance and fashion. A horse that was docked really did look smarter, and might fetch more money at a sale, but to enhance its value by inflicting pain upon a horse was not justifiable. Mr. Hartley rightly took upon himself the responsibility of his servant's acts, because he had followed the custom of docking in the ordinary old-fashioned way. There was nothing against him individually, but in order to mark the importance of the case he would be fined £3, with £3 3s. costs. Miller was ordered to pay 2s. costs. —*Daily Telegraph*.

THE CAUSE OF SWINE FEVER.

Sir,

I, no doubt in common with many other members of the profession, was very pleased to read in to-day's *Record* that the cause of this devastating disease in swine had been discovered.

It is very satisfactory to know that the discovery was made by a country practitioner, after this scourge has baffled such eminent men in this country, the Continent and the United States where the disease is more prevalent.

I was always given to understand that the disease was caused by an ultra-visible organism, but after the confident manner in which Mr. Upton speaks of his discovery I am compelled to accept his decision. No doubt shortly Mr. Upton will give us full details in the veterinary journals of the arduous research work which he has undertaken in the dark years preceding the dawn of his brilliant achievement. Yours faithfully,

JAS. T. ANGWIN.

Arundel, July 8.

Sir,

In your last issue of *The Record* appears a letter by Mr. George Upton on the cause of "swine fever," which explains to my entire satisfaction how the police are in a position to diagnose swine fever.

They can evidently see the minute strongyles and are thus able to recognise the disease at a glance, but I am rather of the opinion that they occasionally make mistakes; and that Mr. Upton is one of the reasons why it has baffled every attempt to eradicate it.—Yours truly,

E. MARRISON.

THE OBJECTORS TO THE AMENDMENT BILL.

Sir,

The editorial note which you appended to Mr. Dyer's latest utterance will probably have struck the majority of the profession as a quite sufficient comment upon it. For the benefit of the minority, however—and for the especial benefit of Mr. Dyer and his allies—I ask leave to emphasise two points.

The first is that my question to Mr. Dyer and his col-

leagues on the "Executive Committee" still remains unanswered. I still ask what evidence they can give us that there are 900 members opposed to the Bill—they have given us none yet. The mere statement that Mr. Dyer has seen "some 600 signed letters from opposers of the Bill" (dates of letters and date of inspection alike unspecified) is no evidence at all of the number of members opposed to it now. A large number of names were once enrolled in opposition to the Bill in its earliest form—in other words, to another and a very different measure; but I deny the existence of 900 opponents of the present Bill in the profession, and in this connection I again ask why the opponents of the measure have let the last two elections of Council pass without presenting one candidate; it is very significant that Mr. Dyer has not even pretended to answer that question.

Now be it noted that, according to Mr. Dyer, I have "an evil mind." (He says that I am an "evil mind," but I suppose that that is his method of affirming that I possess one—these opponents of the Bill put the English language to strange uses at times, do they not?) Well, having an evil mind, I naturally feel keen delight in pressing this second point of mine. Mr. Dyer affects to treat me and the greater portion of my letter with "silent contempt," and, of course, he is at perfect liberty to assume that lofty attitude, though I may remark that indulgence in querulous abuse is not exactly consistent with it. But Mr. Dyer *does* attempt to answer me upon the one point of the existence of 900 opponents of the Bill, and so far fails to give me any answer at all. Taking every word of that sentence which he makes such ado about italicising as correct, there is nothing in it to show that there are *nine* men in the profession still opposed to the Bill—let alone 900.

My second point is this—that as Mr. Dyer has once tried, through the medium of your journal, to convince the profession that there are still 900 opponents of the Bill, he at least has put himself out of the position to treat any such doubting Thomas as myself with "silent contempt." His four co-signatories have either not deigned or not dared to justify to the profession a statement which they and he did not hesitate to make of the profession in order to influence men who knew nothing about it. Probably it would have been more politic on Mr. Dyer's part to have followed their example; but, having attempted such justification, he is bound to succeed or fail in the eyes of the "honest men" to whom he appeals—and he has certainly not succeeded yet. This is more than a question of *opinion*—of course Mr. Dyer has a right to his own opinions, and he has aired them in your pages till now uncriticised by me, for I did not think that their exposition was likely to do any harm. But now we are upon a question of *fact*—Mr. Dyer has committed himself to a statement of fact which there is nothing in the history of the profession to support, and much to negative.

Perhaps Mr. Dyer will also tell us something about the goings on of this wonderful "Committee," which is said to be much bigger than it has ever proved itself to be. What are its terms of membership? and is any subscription exacted from the members in order to conduct the "very strong opposition," or is the name of any individual who has sent the Committee a post-card and forgotten all about it in a week put on the books and allowed to remain there for ever and ever?—How on earth is the whole blessed concern managed and kept going? Who is its Chairman? and did it ever hold a general meeting? and by what selective process were the five illustrious "members of Executive Committee" appointed? and, once again, *why has the Committee given up electioneering?*

What sort of "strong opposition to the Bill" has it been offering during the past two years or so, or has it offered any at all in that period? Can Mr. Dyer, indeed, give us any evidence whatever of the Committee's vitality between the months of June, 1909, when its octet of candidates came to grief at the polls, and May, 1911, when its reprehensible little circular was surreptitiously issued to M.P.'s? And are those hundreds of letters in Mr. Hurndall's possession really open to a complete examination—complete enough to ascertain the date of each correspondent's latest communication—or would only a judiciously selected batch be submitted to inspection, and the rest be merely flourished in the face of the seeker after "the TRUTH," and then

boxed up again? In asking these questions, I am very mindful of the phrase "Not loving the light," which Mr. Dyer thinks fit to apply to me. Considering the veil that shrouds the machinations of this curious "Committee," I think he might better have applied it elsewhere.

And finally, as I hope and expect that Mr. Dyer will make another effort to demonstrate the present existence of his 900 opponents of the Bill, I suggest that his four brethren in the faith that there are such ought to help him in the task. He has worked very hard already, and written many letters against the Bill; but I am not sure that some of them have ever done anything against it except put their names at the bottom of that dreadful circular. By so doing they made themselves equally responsible with him for its contents, and for them to keep silence upon it will give evil-minded scribes the chance of saying that they are ashamed of it. And besides—Mr. Dyer says that your space is valuable, and I agree; but I suppose that there are still some members who have not yet made up their minds regarding the Bill itself, and could your space be better occupied than by matter likely to help them to a decision? I can conceive of nothing more conducive to that desirable end than an attempt by the champions and spokesmen of the opposition—champions of the very best *quality* that the opposition can produce—to convince us of their own *quantity*. The last column in your current issue is instructive and suggestive in this respect, and I hope to see future ones even more so.—Yours faithfully,

"MEPHISTOPHELES."

THE LIMITS OF DIAGNOSIS—SYMPTOMS.

Sir,

There is no denying the fact that many points in Mr. Wallis Hoare's article are true, but I really think he too lightly assumes that the very many practitioners who must plead guilty to this charge of "lightning diagnosis" are so self-satisfied as to be quite pleased with their performances.

No practitioner, however eminent, who has been long in practice, can truthfully say that he is not often troubled with serious misgivings after having "satisfied a client." Although we all may condemn dogmatic assertions, still there really is much to say in favour of those men who seem to be gifted with intuition, or at least, certainly can draw conclusions quicker than their less fortunate fellows.

Most of us soon learn that although we try to study and treat cases scientifically there is no assurance that we shall gain in public estimation, in truth the opposite much oftener, leads to this goal, and only proves that those men whom we often refer to as "clever dogs" are just the ones who possess a good deal of that most useful commodity *common sense*. Further, they are appreciated, and I think rightly so, by those men who "sleep" with their stock, and on whom all of us must rely for a more or less truthful statement about our patients. Symptoms are what our profession has really to rely on for diagnosis, and considering this, is it really very shameful if we admit we are often grievously at fault? When a student in my final, one of those so-called "practical men" was asked (during a grind) for the symptoms of pneumonia in the horse, his answer was—Uneasiness, pawing, lying down quietly, looking round at his sides, hurried breathing, attempting to stale, with often inactivity of the bowels. I am well satisfied now that this man, who was then assistant to a very clever town practitioner, did not at all merit the ridicule he then called forth, and that these well known symptoms do not always mean so-called colic. The following are no isolated cases but are typical of some "facers" one receives now and again.

A farmer called one night and asked me to see a horse, and here is the history. The horse started in the morning being uneasy, lying down and getting up again, crouching, pawing, looking round, straddling with hurried breathing. They gave him some gin and ginger and sheeted him up, but he was no better, so would I go. A very ordinary case this (although always grave) so took the usual remedies to treat a bowel complaint. I need not enter into the treatment adopted further than to say that I always give a

physic ball if a bowel case hangs fire, and I believe I am as successful as my neighbours in treating these cases. Of course I had examined the horse, considered it some bowel complaint, and was treating it accordingly. Nothing had passed the bowels since morning and the rectum was empty. Next day same symptoms, but fluid coming from the nostrils, and he died that night, never having shown at any time violent pain. On post-mortem the stomach and bowels showed not the slightest trace of disease, but the lungs were black and friable and showed very extensive pleuritic effusions.

A hunter, after a hard run, stopped on the road with feet propped out, head extended, nostrils dilated, and breathing laboured. When I saw him, after everything had been done to persuade him to move to a stable a short distance away, the pulse could not be felt, he seemed glued to the spot, and there was stertorous breathing. Diagnosis: Congestion of lungs; and expected him falling over dead any minute. Had to be shoved all the way to the stable, where he now stood with his head pressed into a corner, and being no better in two days he was destroyed. Post-mortem: A tumour in the brain, with all the other organs apparently healthy.

J. KERR CALDERWOOD, M.R.C.V.S.

Sir,

It is with considerable reluctance that I have again to ask you for the favour of some space in your correspondence columns. I am mindful of the fact that with your permission I shall continue the consideration of the above subject, with reference to cattle and dogs, on a future occasion, hence my present remarks in reply to Mr. Mayall will be brief, and I hope relevant to the points at issue.

If the faculty of speech attributed to Balaam's ass were possessed by animals in the present day, I am quite sure it is not on the subject of diagnosis that they would convene with "man, proud man," "most ignorant when he is most assured," far more likely they would plead for a cessation of the continuous drugging to which they are so often subjected by the "ledger" therapists and orthodox believers in medicines.

I am pleased to hear that in some parts of the Empire the owners of animals are taking some interest in morbid anatomy; as, however, they are hardly likely to expend much in the way of fees in the pursuance of this knowledge, I fear that the number of autopsies held will not be augmented to any extent.

I confess that I fail to see the point in Mr. Mayall's story so far as he believes it to apply to the natural or spontaneous recovery of cases. Even those outside the ranks of the "therapeutic nihilists" do believe in the *Vis medicatrix nature*.

I can assure Mr. Mayall that it is not only in out-of-the-way quarters of the world that ignorance flourishes. I have met with striking examples of it in various parts, so far as belief in the virtues of drugs and the infallibility of certain practitioners is concerned.

There many stockowners, intelligent in every other respect, who believe firmly in the fetish of "worm in the tail" and kindred affections. Even lately I met a qualified veterinary surgeon who expressed his belief in this fetish, and argued that "when the 'worm' was removed the cow recovered." No doubt his argument was as feasible as those who believe that a similar result should be attributed to the medicine administered.

I am pleased to find my views are supported by "Momparsa." He is evidently an accurate observer, and possesses that "wise scepticism" which is essential to progress.

What an advantage it would be to the profession if some of those who have reached the "cakes and ale" stage could be persuaded to admit the limits of their skill? We can only hope that there are many more juniors who hold the views of "Momparsa," if so, they can show a worthy example to those of the seniors whose only interest in life is to listen to the "jingling of the shekels and the lowing of the oxen."—Yours, etc.,

E. WALLIS HOARE.

[We think this correspondence may now cease.—ED.]

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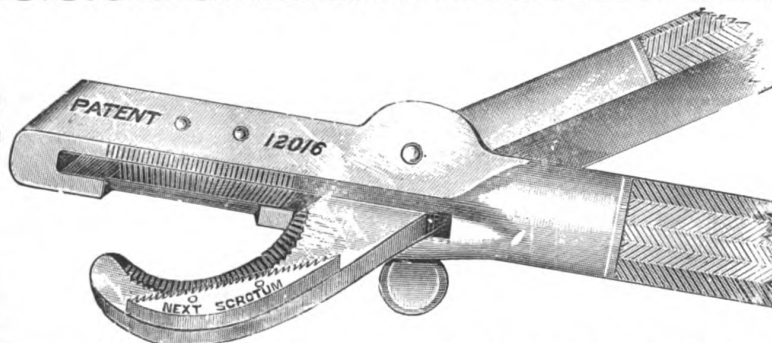
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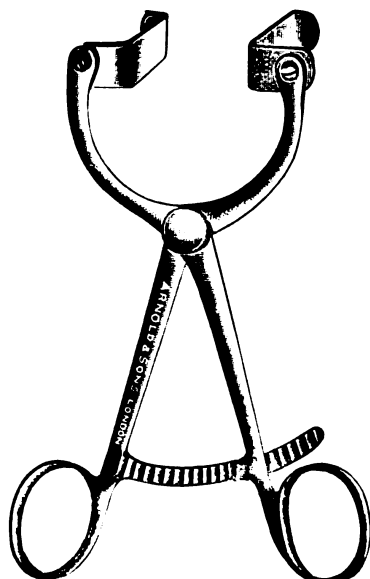
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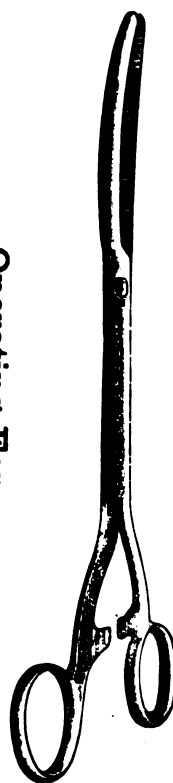


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Witham, Essex.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1202.

JULY 22, 1911.

VOL. XXIV.

THE INTERNATIONAL VETERINARY CONGRESS OF 1914.

The report of the meeting of the Organising Committee of the International Veterinary Congress, which we published last week, is worthy the attention of every member. The utterances which fell from Sir John M'Fadyean in the chair will show how heavy a responsibility is to be cast upon the profession.

Much future work, of very varied nature, lies before the Organising Committee when the time comes for arranging the programme of the Congress. But the sole work at present is the collection of funds, and all members will recognise how formidable a task this will be. No financial undertaking of such magnitude has ever been attempted by the profession in this country—and it is from the profession in this country that the money must come. If a sum sufficient to ensure the success of the Congress is to be raised, it can only be by the united efforts of the profession, and the sources from which the money may come are roughly divisible into three. In two of these directions there is already evidence of activity; the third has not yet been tested at all.

First we mention the local professional Societies. Each Society should subscribe what it can annually to the fund, and we believe that most, if not all, will do so—some are moving in this direction already. The Societies will do their duty, but they are few in number, and some are not strong, so that only a comparatively small proportion of the sum required can be expected from them.

Next come the few individual members who are able to afford large subscriptions, and here again activity is evident. The £50 donation of Mr. McCallum, and the support already extended to Sir John M'Fadyean's project of raising £1,000 by ten £100 subscriptions, augur an abundant assistance to the fund from the wealthier members of the profession. A large proportion of the ultimate total will come from them—but not the major part, nor is it fair to ask them to bear this.

Finally, we have the smaller individual subscriptions of the rank and file of the profession—men who cannot be expected to subscribe heavily, but nearly all of whom could afford a little. It is upon the action of these men that the success of the fund really depends. Of course, if every member able to subscribe even half-a-guinea annually were also

willing to do so, there would be no need for large subscriptions at all. And if even a quarter of our number were willing to follow the precept and example of Sir John M'Fadyean, and "subscribe as far as their means allow," the success of the fund would be assured. The whole amount required only represents about £1 per member, and we have ample time to raise it. The one thing necessary is a sufficiency of general interest, and a sufficient number of subscriptions—not necessarily large ones individually—from the rank and file of the profession.

The Treasurer, Mr. F. W. Garnett, Dalegarth, Windermere, will gladly receive all monies, which may take the form either of donations or annual subscriptions. A small annual subscription will probably be the more convenient method to men of limited means; but it should be commenced at once.

Two points should be borne in mind. Large as the sum seems, it can be easily raised, if a sufficient number of us will subscribe a little. And, if a sum adequate for the purpose is not raised, the cause of International veterinary co-operation will sustain a serious check, the whole reproach for which will justly lie with the members of the profession in the United Kingdom.

GUTTURAL POUCH DISEASE.

Sequel to a case reported in June 3rd issue of The Veterinary Record.

Although it is truly said that it is as important to record failure as success, it is with a somewhat heavy sense of disappointment that it becomes a duty to relate a fatal sequel to an apparently successful operation. As stated in the concluding lines of the first report, the animal was being conditioned for return to duty. The date of discharge from hospital had been actually fixed when a careful examination revealed a more than normal fullness of the left guttural pouch. The order for discharge was consequently cancelled and the animal kept under close observation. At the end of a week all doubt was at an end, a relapse had occurred.

Operation was postponed till, symptoms of dyspnoea commencing to be evident, it was decided upon. The procedure differed in no essential detail from that described in the first operation, but definite location of structures was rendered more difficult by the new tissue scar formation. An incredibly large quantity of food *débris* and pus of a very fetid nature was evacuated. The pouch was washed out with Tinct. iodi. solution. The dys-

St Anthony Card
St Anthony

phagia after the operation was even greater than on the first occasion, but hope was not abandoned till on the third day gangrenous pneumonia supervened. To this the animal speedily succumbed.

The post-mortem examination revealed dilated eustachian tubes—the initial cause of the disease, and an abnormally long downward and backward extension of the left guttural pouch, the pocket-like end of which was behind, and on a level with, the first ring of the trachea. In this *cul-de-sac* pus was found. The walls of the pouch were of course thickened. The apices of both lungs were in an advanced state of gangrenous pneumonia. There was considerable pharyngitis, and purulent foci were found in the surrounding connective tissue of that region.

The main conclusion arrived at as the result of the post-mortem was that the possibility of cure would have been greater had it been possible to open up for some extent of its length the downward prolongation of the hypertrophied guttural pouch, and thus ensure a more satisfactory dependent orifice. For anatomical reasons, however, this would have been most difficult.

It appears certain that, after the first operation, there still remained at the bottom of the pouch a little pus, which, on the closure of the operation wound, acted as a starting point for fresh infection. The opening into the pouch made through Viborg's triangle was some two inches or more above its lowest extremity. It should be made clear that the fatal relapse only occurred in connection with the left guttural pouch. The first operation appeared to have been successful in the case of the right pouch.

WAKEFIELD RAINEY, Capt. A.V.C.

Bloemfontein, S.A. June 24.

A CASE OF ROUND CELLED SARCOMA.

The subject of the accompanying photograph was a middle aged van mare, owned by a poor man and used for fruit transport.

The numerous subcutaneous growths were said by the owner to have made their appearance suddenly, and an examination of the animal disclosed no apparent health disturbance. Although in rather poor condition the temperature was normal, and the appetite regularly good.

The case was treated by me for about a month in a rather uninteresting manner, and with no resulting impression.

After the application of the mallein test a course of mercurial iodides were tried, and then as no improvement was obtained one of the growths was excised and sent to the Royal Veterinary College for microscopical examination. Sir John M'Fadyen very kindly reported it to be a case of "round celled sarcoma."

Upon receipt of this information the mare was at once destroyed and the carcase cremated.

I regret that for a variety of reasons no post-mortem examination was made. I also regret that

the history and description of what, to me, was an unusual case should be somewhat barren, but I think the photograph compensates in some measure for the lack of written detail.

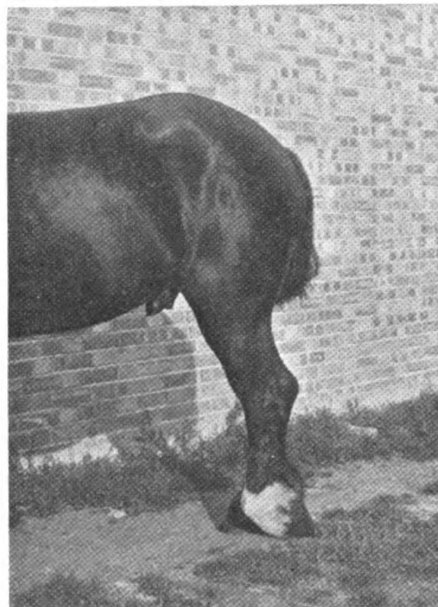
E. ALFRED WEST, F.R.C.V.S.

London, W.C.

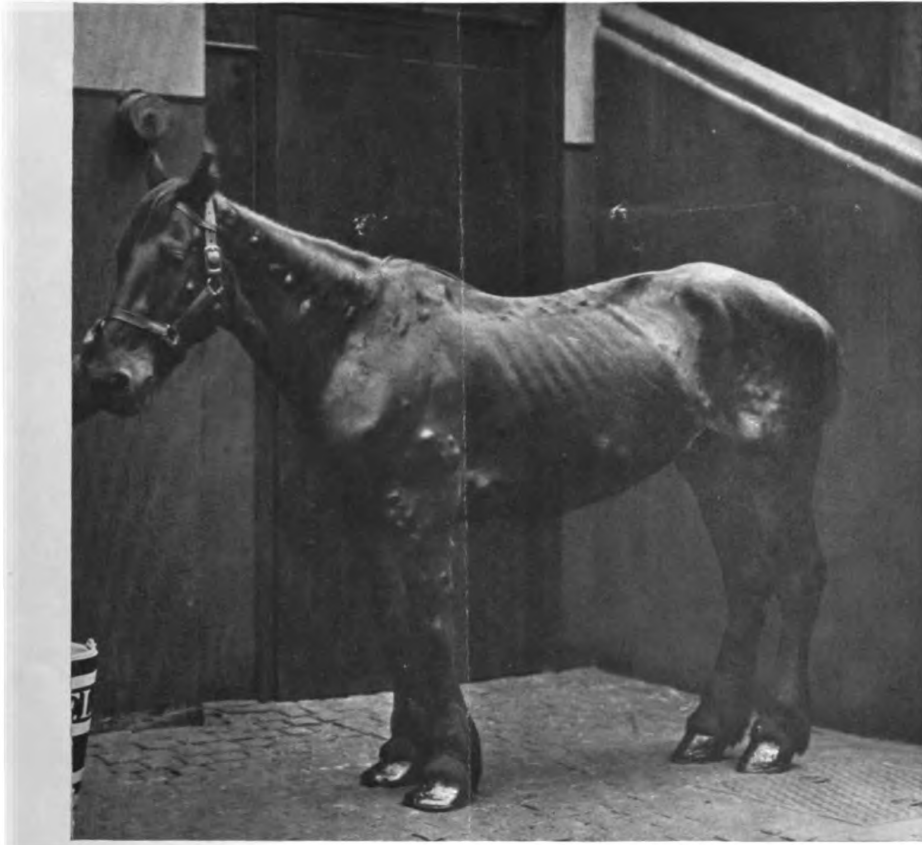
AN INDICATION IN STIFLE LAMENESS.

By A. E. BAYLEY, M.R.C.V.S.

It seems to be the fashion nowadays in some quarters to be rather too pessimistic; and to describe a certain symptom or gait as being *diagnostic* of lameness due to a particular lesion is to court the stricture that "fools rush in where angels fear to tread!" Despite this risk, however, and in the hope that it may interest a few of your readers, I venture to enclose a photo which is intended to depict an attitude *characteristic* of a condition of the stifle joint causing troublesome lameness.



It will be observed that there is extreme "knuckling" of the *fetlock* joint, so much so that the end of the cannon bone very nearly rests upon the ground, and that the angle which normally exists at the flexure of the hock joint is nearly obliterated, causing the limb as a whole to approach the perpendicular. Once seen one can readily differentiate this peculiarity from the perfectly normal attitude—which it reminds one of—assumed by the horse when standing at ease; the chief difference being that in the latter position the angle referred to instead of being more obtuse has become less than a right angle. In addition there is in old standing cases a somewhat distended and tense condition of the bursa, the result of chronic inflammation of the synovial apparatus of the stifle joint,



SARCOMA IN THE HORSE.

To illustrate note by Mr. E. Alfred West, F.R.C.V.S.

My early and painful experience of this condition was obtained when practising chiefly amongst horses employed in omnibus work on the London streets. I assume the lesion is brought about by the enormous strain to which the muscles of the hind limb are constantly subjected by the repeated attempts to start the 'bus after it has been allowed to come to a dead stop on a greasy condition of the asphalt.

The animal, the subject of this photo, is a light vanner. He is of the highly strung, intemperate variety which "jumps into collar" when starting to pull his load, and cannot be restrained from doing more than his share of the work.

The treatment consisted of pyro puncturing the stifle accompanied by a smart blister, and followed by a prolonged rest at grass. That is now twelve months ago, and as there has been no recurrence of the lameness since the horse resumed work some months ago one is hopeful that a cure has been effected.

I confess, until my experience with the omnibus horse, that I used to be sceptical as to the existence of lamenesses that could be ascribed purely and simply to the stifle. Now, however, I think one is justified in asserting with every confidence that what one has tried to illustrate and to describe here is of quite common occurrence in animals performing certain kinds of work and who are of a certain temperament. At any rate, I claim that there is quite as much justification for regarding the above symptom or attitude as diagnostic of stifle trouble as there is in attributing "pointing" and some of the other so-called classical symptoms as certain indications of navicular and other diseases.

CASE OF EQUINE TUBERCULOSIS.

On the 10th ult., I was requested to attend a four-year-old unbroken draught filly which had been grazing with other animals and thriving well, when, without any obvious cause, her breathing was noticed to be abnormally accelerated, so she was taken up from grass and placed in a loose box. She was fractious, and had never been handled, so I only made a cursory examination, as I deemed it undesirable to use means of restraint. Her respirations were about twenty per minute and were accompanied with a double expiratory effort, slight nasal discharge, appetite fair; the fæces were examined for parasites, but none could be found. I provisionally diagnosed the case as pneumonia.

She was fed on nourishing food in which medicaments were given, and milk and oatmeal gruel were added. Despite a fair appetite she very rapidly emaciated, and the respirations became more laboured. On auscultating the chest no crepitation was detected, but the respiratory murmur was increased over the whole area of the lungs. The pulse was full and quickened, the visible mucous membranes slightly injected, and she emitted a very occasional suppressed cough. Her temperature was not taken, on account of the temper she evinced.

Her appetite gradually failed, diarrhoea supervened, and she died on the 23rd ult.

On post-mortem examination, I found that the mesenteric lymphatic glands were very much enlarged and contained puriform fluid. The stomach and bowels were small and nearly empty, and an ulcer was noticed in the large intestine. The spleen contained several small yellowish nodules. The liver and kidneys appeared to be healthy. The lungs were enlarged and heavy, and on section presented the appearance of grey hepatization. I obtained smears from the lungs, spleen, and mesenteric glands, and stained them with Ziehl's solution, and on microscopic examination immense numbers of Koch's bacilli were visible on the slide prepared from the mesenteric gland, and in smaller quantity from the spleen and lungs. Sir J. M'Fadyean, to whom I sent specimens, kindly confirmed the diagnosis.

I had a case of tuberculosis in a three-year-old filly on the same farm several years ago, and in that animal the organs affected were the spleen and the mammary gland.

WM. CAUDWELL, F.R.C.V.S.

Chertsey.

"PERITONEAL WASHINGS" IN THE PREPARATION OF ANTI-RINDERPEST SERUM.

Major F. S. H. Baldrey has published (*Journal of Tropical Veterinary Science*) an article upon the method of augmenting the amount of virulent material for the production of anti-rinderpest serum by means of "peritoneal washings" or "peritoneal fluid." This method was first inaugurated by workers in the Phillipine Islands, but has since been further developed at Muktesar. Some of its results were irregular at first, and Major Baldrey's article is largely devoted to an exposition of experiments which were undertaken to definitely estimate its value.

The technique is comparatively simple. Control animals which are to provide inoculable material receive an intra-peritoneal injection (varying in quantity with the animal's weight) of a .5 per cent. sterile solution of potassium citrate at a temperature about 27° C. One hour later, the animal is bled to death; and the fluid is collected from the peritoneal cavity immediately after death. About 50 per cent. of the amount injected is recovered; and this increases the material for hyper-immunising purposes to more than 50 per cent. without any increased expenditure in animals.

The advantage of this method is obvious; and but for its employment the short supply of Hill cattle would have prevented the Muktesar Laboratory from turning out a quantity of serum even approaching the amount it actually did produce last year. Major Baldrey's researches, however, have increased the existing knowledge of the action of the peritoneal fluid, and are also indirectly suggestive regarding the nature of anti-rinderpest serum itself.

Briefly, Major Baldrey's main conclusions are—that the method of employing "peritoneal washings" to augment the amount of inoculable virulent material is a good one; that it produces an anti-rinderpest serum of a high value, though less potent than that produced by blood inoculation; that in comparison with serum from blood inoculations it is of greater value in the less susceptible Plains animals than in the highly susceptible Hill cattle; and that its reaction is produced principally by a toxin, which is rapidly formed under the vital influence of the peritoneal cavity. The inoculation of very large doses, however, is not advisable in Indian cattle, as peritoneal fluid is not absorbed so well subcutaneously as is blood, and also—if given in very large doses—has an extremely caustic effect upon the tissues, and may cause death from acute toxæmia.

Indirectly the research has yielded evidence supporting the view that anti-rinderpest serum is an anti-toxin, and experiments have been commenced in this direction which will be reported in due course. It is possible, also, that further experiments in diluting the peritoneal fluid or mixing it with blood may result in improving upon the present practice of this new inoculation method. Major Baldrey's present research has certainly yielded a more accurate estimate of its value, so far as Indian cattle are concerned.

W. R. C.

ABSTRACTS FROM FOREIGN JOURNALS.

CHRONIC INFECTIOUS CATARRH IN CATTLE.

The disease described by Johne in 1895, and later attributed to an intestinal infection by the bacillus of avian tuberculosis, and then demonstrated by Bang, to have no connection with tuberculosis at all, is frequent in Prussia, and affects cattle at grass as well as housed.

It is a true cowshed disease, and is transmitted by the dung of affected animals, in which the characteristic acid-fast bacillus is recoverable as well as in the intestines. Food, water, milk, and pasture, if infected, become so from the dung.

Cows three to six years old most frequently fall victims to the disease, young animals escape or very rarely become infected. The period following the birth of the first or second calf is the most favourable for the appearance of the disease. Young calves apparently become immune through the milk of an affected dam.

The disease runs a long course, and may lie dormant a long time before an animal shows signs of being affected.

The symptoms are diminution and eventual loss of milk, diarrhoea and excessive thirst, progressive wasting in spite of good feeding.

The leading symptoms are the wasting, the constant diarrhoea with very liquid dung, and as the cow lies down much more and longer than usual she

becomes much soiled by it. There is no alteration of temperature as a rule. The dung is very liquid, foetid, and covered with gas bubbles and mucus; the animal as a rule is bright, and lively and retains her appetite, and an exact diagnosis is difficult.

Treatment is not a success, and the beast cannot be fattened. Animals die in about three months as a rule sometimes they linger on for six.

There is a diphtheritic deposit on the stomach and small bowels, and red patches in the colon and cæcum. The ileum and cæcum are generally affected, the duodenum and rectum but rarely. The mesenteric glands are much enlarged and softened. There is an infiltration of giant, epithelioid and round cells into the submucosa, there is no degeneration or caseification, and the invasion extends slowly from the cortex into the struma of the glands.

The bacillus is shorter and broader than the tubercle bacillus, with which it is often confused, and it is found in masses in the epithelial cells, and in the dung. It is very difficult to induce it to grow on ordinary culture media.

By the infiltration into the submucosa, the villi lose their structure and physiological functional activity, hence the wasting and diarrhoea. The usual experimental animals are not infected by the usual means, but calves readily respond to infective material from the glands, either in food or injected.

The disease is differentiated from tubercle by the non-reaction to tuberculin, although there is a reaction with avian tuberculin; by the absence of caseification in the glands. From parasitic invasion by the absence of worms or ova in the dung. Also by the loss of milk and characteristic diarrhoea and wasting.

Prophylaxis consists in keeping non-affected animals away from the dung of those affected, and early slaughter of the affected ones: isolation, and thorough disinfection of premises.

A passive immunity of an unsatisfactory character has been obtained with extracts of bacilli, but a more satisfactory active immunity is obtained from sterilised bacilli extracted from the mesenteric glands.

In Italy the disease has not been noted in native cattle but is found in Dutch cattle imported; it is frequent in Holland.—*Vet. Ber. & Clin. Vet.*

RABIES.

By international agreement, cases of rabies occurring within ten kilometers of the border in Belgium or Germany are reciprocally reported to the other country.—*La Clin. Vet.*

PERIODIC OPHTHALMIA IN CATTLE.

Outbreaks of periodic ophthalmia are reported to occur after cattle are put on to young trifolium, and a child who rubbed its eye after assisting to dress one of the affected beasts developed a similar disease. The cases readily yield to treatment.—*Ber. Vet.*

[*Post hoc is not propter hoc.*—TRANSL.].

F. E. P.

SENILE ATROPHY OF THE BONES OF THE DOG'S SKULL.

The lesions of the senile atrophy of the human skeleton are well known, but little is yet certainly known of these osseous changes in the domestic animals. Prof. Dr. Pick, of Berlin, contributes (*Berliner Klin. Wochenschr.*) a note upon this condition in the dog.

In the skull of a collie, which had died at the age of eleven years, Pick was able to demonstrate especially well-marked lesions of senile atrophy, which had affected all the bones of the skull. All these bones appeared extremely thin (in parts as thin as paper) or perforated and apparently "worm eaten" by deep pits and channels internally and superficially. Alterations in the form of the skull or traces of inflammatory osteophytes were completely absent. The teeth were loose and showed small deep pits and corrosion at their roots, so that many appeared manifestly coarsely porous.

Pick, in collaboration with Dr. Schmey, a veterinary surgeon, has now gone further into the question of osseous atrophy in the old dogs, and has been able to demonstrate the process in all its stages in a complete series of macerated skulls and other bones. There is, therefore, a typical form of senile osseous atrophy in the dog, which affects the skull alone, or at least preponderates in that region, reaches an excessive degree of development, and may involve all the bones of the skull. It is a simple senile atrophy.—*Berliner Tier. Woch.*

THE CONFORMATION OF THE DACHSHUND AS A CAUSE OF PARAPLEGIA.

Complete or incomplete paraplegia of the hindquarters is rather common in dachshunds, and Jakob considers (*Münchener Tierärztliche Wochenschrift*) that the predisposing cause is the excessive length of the body in this species. The last dorsal and the lumbar vertebrae are not sufficiently supported by the limbs in running and jumping, and in consequence of this, bilateral wrenching of the peripheral nerves (lumbar plexus, great sciatic, and sympathetic) are easily possible. These injuries become manifest by the appearance of sensory (hyper-æsthesia) and motor disturbances; and the functions of the intestine and the other abdominal organs may also be disturbed.

All circumstances which may bring about a too intensive alteration in position of the vertebral column must be considered directly exciting causes. Among these are clumsy jumping, extreme turning sideways, too violent curvature of the back during tenesmus, violent coition, and so forth. A well-nourished condition of the body increases the predisposition to the affection, as also does the advance of age.—(*Berliner Tier. Woch.*)

(Is paralysis of the hindquarters really commoner in long-bodied breeds than in others? I doubt it, but an attempt to prove or disprove the idea, even with abundant statistics, would expose the investigator to many risks of undetected error.—**TRANSL.**)

W. R. C.

PYOCYANEUS INFECTION IN DOGS AND ITS SIMILARITY TO RABIES.

By Maj. W. F. HARVEY, I.M.S., and Capt. R. MARKHAM CARTER, I.M.S., and HUGH W. ACTON, I.M.S.

Several variations from typical rabies have been described both in animals and in man. These have received such names "chronic rabies," "abortive rabies," and so on. The question of the possible spontaneous cure of rabies has also received attention. Some authors in discussing these conditions have suggested the possibility of incorrect diagnosis and the idea of a bacterial causation. We do not directly deal with any one of the conditions mentioned above, but our own experience leads us to believe that the bacterial causation hypothesis is worthy of attention. In this paper we consider that we make out something of a case for the existence of a *B. pyocyaneus* infection occurring naturally in dogs, and that such infection may, both as regards symptoms produced and tests applied, lead to confusion with rabies. Of course, we are aware that *B. pyocyaneus* is a very ubiquitous organism, and we must therefore leave to our readers the judgment as to whether contamination has or has not been excluded in the case which we present to them. The diagnosis of rabies by animal experiment is often the only test at our disposal, and may be summed up as depending on the subdural inoculation in a rabbit of an emulsion of the brain of the suspected animal with subsequent onset of paralysis, and death within a given period. Only exceptionally do we add to this a bacteriological examination. The result of such an examination in rabies should, of course, be negative. We think we are right in saying that if the cultivation from brain substance showed sterility in forty-eight or seventy-two hours, it would be assumed that the tissue was sterile, and that the experiment went to confirm the diagnosis. We shall see that some of our cultivations from brain substance did not develop growths of *B. pyocyaneus* for more than seventy-two hours after inoculation. The point is an important one. Further, if subpassages are made by subdural inoculation, and the same train of paralytic symptoms leading to death appears as in the original experiment, the diagnosis of rabies would be considered as completely established. But we show that the brains of animals which have succumbed to subdural inoculation, and which have yielded pure cultures of *B. pyocyaneus*, are capable of giving rise to the same symptoms as in the original when reinoculated after the manner for rabies diagnosis. We have carried the experiment to as many as eleven subpassages in one case. It must be remembered that, as part of the evidence leading to a diagnosis of rabies, we must include the suspicion attaching to the condition of the animal or brain of the animal which was brought or sent to the institute on account of the fear that the animal was rabid.

The disease produced in rabbits and guinea-pigs by *B. pyocyaneus* is well known, and has been described. As far as we know, it has not been specially described as a disease naturally occurring in dogs. The points of differentiation from rabies of the disease are:

1. Absence of Negri bodies from the hippocampus major of the animal suspected of rabies, if a microscopical examination is available. The absence of Negri bodies from the brain of the animal inoculated is not absolutely to be relied upon. We have been able to show scanty Negri body formation in the brains of guinea-pigs inoculated with pure cultures of *B. pyocyaneus*.*

2. The paralysis induced in the inoculated rabbit is somewhat different in character, although not necessarily in incubation period, from that of rabies. The description of the disease in rabbits as given by E. Macé† will bring

out both the points of resemblance to conditions which have been called rabid and also the points of difference. Pyocyanus disease, he says, takes different forms, according to the character and the quantity of the virus introduced into the organism, and also according to the state of the animal. The affection may manifest itself very acutely in less than twenty-four hours, less acutely in three to four days, or it may develop in chronic fashion and last even for several months. In the rapid forms the chief symptoms are readiness to stumble, loss of appetite, somnolence, and often at the end convulsions. There are, besides, fever, diarrhoea, albuminuria. The animal emaciates and falls into a cachectic state. Finally, there appears in certain cases motor paralysis of a type which is quite characteristic. These paralyzes do not supervene immediately after inoculation. There is a rather long period of incubation—twenty days to two months. The hinder extremities are the first attacked, either simultaneously or successively or singly. At the autopsy no lesions, either of muscles, nerves, or nerve centres, are to be found. The diagnosis is easily made clinically or bacteriologically. The above description refers to animals inoculated either subcutaneously, intra-peritoneally or intravenously. Our cases were those of dogs which apparently had developed the disease naturally, or rabbits which, having been inoculated subdurally in the test for rabies, developed the chronic cachectic form (otherwise described as consumptive rabies), or were animals subdurally inoculated with brain material containing *B. pyocyanus*, and which developed the acuter form of the malady. The symptoms in the animal observed by us corresponded accurately with those described by Macé. The paralysis in particular is very typical, and may easily be distinguished from that due to rabies when attention is drawn to it. Diarrhoea was not a prominent symptom in our animals. The paralysis in its final stages could not be distinguished from that of rabies.

3. Cultures from heart's blood or liver or brain give a pure growth of *B. pyocyanus*. This we were able to obtain in all our cases.

Other dogs than those mentioned were examined—animals to which no suspicion of rabies attached—and no growth of *B. pyocyanus* occurred. Nor did cultivations made from heart's blood, liver, or brain of test animals dying from undoubted rabies ever show growth of *B. pyocyanus*.

In many of the cases, in order to exclude the possibility of agonal infection, the animals were not allowed to live until death, but were chloroformed in the later stages of the disease. The *B. pyocyanus*, we found, can, when contained in tissue, resist the action of pure glycerine for a time. It can thereafter give rise to "pyocyanus disease" in rabbits subdurally inoculated, although with a long incubation period and more manifest wasting than when unglycerinated cerebral tissue is used.

The case which led up to the search for and experimentation with *B. pyocyanus* is instructive in its details. It was as follows: A patient came to the institute for treatment, after having been licked on abrasions by his own dog. The dog died under suspicion of rabies. (Some time before the development of the disease this dog had pups which were about six weeks old.) During our patient's stay under treatment one of these pups developed a sickness and was brought to us for inspection. The animal was very weak and could not stand, and was detained under observation. Before death it exhibited spasmodic movements of the limbs. The symptoms were not exactly characteristic of rabies, but did not exclude the possibility, and, when taken in conjunction with the history, were at least suggestive of that disease. The brain of the pup was removed, and was used in a series of dilutions (subdural inoculation) in an experiment designed to determine the connection

between length of incubation and degree of dilution. That is to say, we assumed that the disease was rabies, and had no suspicion of any other. The actual experiment was instituted because it is comparatively seldom that at this institute fresh brains can be obtained, and we did not wish to lose the opportunity thus afforded us. Six rabbits were inoculated subdurally with varying dilutions. All six developed paralysis and died. It was the nature of the paralysis which raised our suspicion that the disease was not rabies, and which led to the making of cultures from brain and from heart's blood. The heart's blood culture gave a growth of *B. pyocyanus*, but the culture made from the brain did not do so at all. This last fact indicated that the bacilli were at least very sparse in the cerebral tissue. That they were there, however, was shown by the subpassage experiments which followed. The following are the details of our cases:

CASE I.

Puppy belonging to Captain L., a patient. Mother of pup died of suspected rabies. Puppy fell sick, could not stand, and died twenty-four hours later with convulsions. Six rabbits inoculated with emulsion of fresh puppy's brain. All six developed in the course of sixteen to twenty-days paresis of the hinder extremities and died a few days later.

Rabbit 2 (passage), inoculated subdurally from one of the six rabbits, developed the same disease. The heart's blood gave a culture of *B. pyocyanus*, whilst the culture from brain was sterile.

Rabbit 3, inoculated from Rabbit 2 October 16th, 1909, showed tremor October 30th; paralysis in hind quarters October 31st, and died November 2nd. Heart's blood gave growth of *B. pyocyanus*. Brain showed sterile.

Rabbit 4, inoculated from Rabbit 3 November 2nd, 1909, showed paralysis November 23rd, and died November 25th. Heart's blood showed *B. pyocyanus*. Brain sterile.

This series was continued. The broth tubes inoculated from the brain might have given a growth had this been kept long enough. The subpassages gave quite clear evidence that the brain tissue was also infected, as later cultivations showed, with *B. pyocyanus*. In the later subpassages *B. pyocyanus* was recovered also from the brain. Rabbit 11—the last of the series, inoculated February 17th, 1910—showed paralysis on March 3rd, and was killed with chloroform on that date. The heart's blood on culture gave a green scum on the surface of the broth in twenty-four hours, whilst the culture from the brain gave the same in forty-eight hours. Coloration of the broth itself followed.

A portion of the brain of Rabbit 11 was placed in pure glycerine, and kept there for three days at room temperature.

Rabbit 12, inoculated with glycerinated brain of rabbit 11, March 7th, 1910, did not show any paresis until May 11th. The animal had undergone considerable emaciation. Paralysis nearly complete May 13th; killed May 16th. Heart's blood gave a greenish-brown scum on the broth culture on May 17th, which by May 18th was a thick green growth. Brain culture showed a definite green tinge of the fluid and growth on May 19th. Thus *B. pyocyanus* lying in cerebral tissue can withstand the sterilizing action of pure glycerine for three days and give rise after that period to symptoms and death resembling those of what has been called consumptive rabies.

CASE II.

Dog of Lient. S., brought to Institute on December 24th, 1909. The dog presented an appearance which might have been that of the last stage of rabies. It lay on its side quite unable to move and saliva was dribbling from its mouth. The dog was chloroformed. The hippocampus major showed no Negri bodies.

Rabbit 1, inoculated subdurally from dog's brain showed total paralysis and death on the third day. Heart's blood gave culture of *B. pyocyaneus* in twenty-four hours; brain in forty-eight hours.

Rabbit 2, subinoculated from Rabbit 1, January 29th, 1910, showed marked paresis on February 7th, and was killed with chloroform on February 8th. The paresis in this case came on earlier than in the previous cases. Heart's blood gave culture of *B. pyocyaneus* in forty-eight hours; brain in ninety-six hours.

Rabbit 3, done from Rabbit 2, February 8th, 1910, showed paresis, February 15th, complete paralysis, February 16th, on which date it was killed. Cultural results the same as in Rabbit 2. In this series we find a very distinct shortening of the incubation period.

Rabbit 4, subinoculated, February 16th, 1910; paresis, February 23rd; marked, February 24th; killed, Feb. 26th. Cultures from both heart's blood and brain gave green scum in forty-eight hours. The brain of Rabbit 4 was kept in glycerine at room temperature three days, and Rabbit 5, inoculated with this glycerinated material, developed symptoms of wasting and paralysis, and died seventy-two days after inoculation.

CASE III.

A dog was sent to the Institute from a near station. On arrival the dog was in a distressed condition, and ropy saliva was hanging from its mouth. The dog was not aggressive, and did not look altogether like a case of rabies. It died the same night (January 25th, 1910), and the body was placed on ice.

Guinea-pig 1, inoculated with emulsion of dog's brain, January 26th, 1910; paresis, February 15th; death, February 16th. Cultures from heart's blood and brain gave growth of *B. pyocyaneus*.

Guinea-pig 2, from Guinea-pig 1, February 16th, 1910; was observed to be unwell, February 27th; showed no definite paresis, but died emaciated, March 9th. Heart's blood gave culture of *B. pyocyaneus* in twenty-four hours; brain in forty-eight hours.

CASE IV.

A dog had bitten, unprovoked, three persons. The persons came to the Institute for treatment, bringing the dog with them. The dog was kept under observation. It did not show any special signs of rabies. Any symptoms shown were rather those of viciousness. It did, however, on one occasion dart at a stick passed in between the bars of its cage. As the dog remained alive for over ten days the persons bitten were not treated. This dog was kept some time. It became emaciated and developed diarrhoea, and was chloroformed. A heart's blood culture, taken this time from the dog's heart itself, gave a marked *pyocyaneus* culture in forty-eight hours. The case is important in connection with histories of unprovoked attacks and the value attached to this in the diagnosis of rabies.

These cases all agree most remarkably in the finding of *B. pyocyaneus* in the heart's blood and brain. Some of the animals were not allowed to die, but were chloroformed before death. An agonal infection is thus excluded. Nevertheless, *B. pyocyaneus* is a widely distributed organism in nature. But the invariability of the finding in the cases of animals under suspicion of rabies, and the absence of the particular organism in cases where rabies either was not in question or was quite definite, suggested that here we were dealing with a disease occurring naturally in dogs, and which may simulate, say, either rabies or distemper. We decided, however, not to publish the above four cases, or to raise the question of diseases liable to be confounded with rabies, until we should confirm our findings with another such case. This we have in Case V. As the case is an important one from the point of view of decisions as to

the necessity or non-necessity of treatment we give it somewhat fully.

CASE V.

The dog in question had licked two people and bitten two. The two who were bitten received their injuries in the course of an attempt to administer medicine. All four persons came to the Institute—a distance of some 300 or 400 miles—for treatment. Only the two bitten were treated. The circumstances of the cases were these:

A change was noticed in the quality of the bark. The animal showed some perversion of appetite—ate earth. It was able to drink milk, and showed no particular irritability. The dog was sent to a veterinary subordinate, and as it showed weakness of the extremities also, it was shot as rabid.

The brain arrived in glycerine, and was changed into fresh 50 per cent. glycerine September 14th, 1910. An emulsion of glycerinated brain was inoculated subdurally into a rabbit on September 15th. The animal remained well till October 15th, when it showed a certain amount of wasting. The hind limbs were noticed to be slightly paralysed on October 20th, and it died on October 26th, with both hind limbs paralysed.

Post-mortem examination.—Brain somewhat injected, liver engorged, spleen normal, bladder distended. The hippocampus major showed no Negri bodies. Culture from brain sterile. A portion of the brain of this rabbit was placed in glycerine for twenty-four hours and inoculated subdurally into a second rabbit, October 27th, 1910. Wasting showed itself on November 10th, and paralysis of the hind legs on October 12th. The animal when fully paralysed was chloroformed. *Post-mortem:* Engorged liver; slight congestion of vessels of pia, arachnoid; distended bladder. Subcultures were made from heart's blood, liver and brain.

The culture from the liver alone showed a growth, and that again was *B. pyocyaneus*.

The brain was kept for twenty-four hours in glycerine, and a third subpassage carried out on November 15th, 1910. Paralysis of the hind legs appeared on November 26th, and the animal died on December 1st. *B. pyocyaneus* was recovered from the brain, heart, blood, and liver. The subpassage was done up to the seventh, and every time the *B. pyocyaneus* was recovered from the heart's blood.

REMARKS.

1. *B. pyocyaneus*, although a common and widely-distributed organism, is not such a common contamination or such a common agonal infection as to account for facts here set forth. Agonal infection is negated by the fact that many of the animals were not allowed to die naturally, but were put out of existence by chloroform.

2. Other observers have mentioned the possibility of the occurrence of microbial diseases simulating rabies, but have not, so far as we know, incriminated *B. pyocyaneus*.

3. One author (Beck †) has been able to reproduce a disease by subdural inoculation in a case of distemper, but was not successful in carrying the subpassages further. Other observers have been able to make several subpassages with distemper virus.

4. The confirmation of the facts here set forth, and their bearing on cases of reputed cure of rabies, and such conditions as chronic rabies, abortive rabies, and consumptive rabies, must be left to further investigation.

REFERENCES.

- * Captain Acton and Major Harvey, *On the Specificity of Negri Bodies.* † *Traité Pratique de Bactériologie.* ‡ *Archiv. f. Wissenschaft. u. Praktische Tierheilkunde.* 1902, Bd. 28, Heft 5, p. 505.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A special meeting was held in the Imperial Hotel, Darlington, on Friday, July 7th. The President, Mr. C. R. Dudgeon, Sunderland, in the chair. There were also present Messrs. P. Snaith, A. C. Forbes, Bishop Auckland; E. H. Pratt, Northallerton; W. N. Dobbing, C. G. Hill and J. H. Taylor, Darlington. Mr. J. M. Walker, West Hartlepool, was present as a visitor.

Apologies for non-attendance were received from Messrs. W. Awde, W. H. Blackburn, and H. Peele.

Mr. J. M. WALKER, M.R.C.V.S., was proposed for membership by Mr. Hill, and seconded by Mr. Forbes.

It was proposed by Mr. Hill, and seconded by Mr. Pratt, and unanimously carried, that the proposed excursion of the members and friends of the Association to Middleton-in-Teesdale and Langdon Beck on July 28th take place, and that members do their best to get their friends to accompany them.

The PRESIDENT stated that he believed that the present meeting was the outcome of something which he mentioned in his Presidential address as to the desirability of the members working together in unity with reference to fees which were paid by Insurance Companies to members of the profession for examination of animals, as in his opinion these fees ought to be refused. Therefore this meeting was called "for the purpose of discussing professional fees, and the desirability of some uniform scale of charge being drawn up." He took the strongest objection to the fees offered by Insurance Companies, and absolutely refused to work for any such fees. The fees paid by Councils were hardly worth working for, and he had more than once almost decided to throw up his appointment as an Inspector.

When his address was discussed by the members he was surprised to learn that the fee paid for castration in the neighbourhood of Darlington was so small as five shillings, and he would certainly not castrate a colt for such a fee.

On the other hand circumstances had to be considered, and where in a district such a fee was the usual one it was of course obvious that if one did not do the operation another would, unless some uniform scale was agreed upon.

He regretted that there was such a small response to the circular, which had been sent out both to members and non-members in the district, and it showed the great apathy of the profession when members of it would not try and come together and try and get better fees, and it really looked as if they did not care one little bit.

Mr. FORBES thought that all would like to see the fees raised, but the question was, How to do it? In his district there were many castrators, not veterinary surgeons, who were operating in quite a skilful way for 5/-, and the question was, Were they to accept this fee or lose work? He always charged 5/- if he was paid at the time of the operation, but if he booked it he charged 10/6. He did not undertake any work for Insurance companies unless he was in the neighbourhood, then sometimes if the number of animals to examine was considerable, it was not a long job; it was money soon obtained if one was driving past the place in the ordinary course of one's rounds.

Mr. SNAITH said that some years ago he took part in a discussion as regards fees paid by the Durham County Council, and he was then prepared to "go on strike" for better fees. He sent a letter to all the Inspectors of the County Council, but very few replied and nothing could consequently be done. When one had to spend sometimes a whole day, say in investigating an outbreak of sheep scab, and make a microscopical examination in

each suspected case, for the fee of one guinea and their fare, he thought one was certainly not paid a sufficient fee. It seemed to him a strange state of affairs when the County Council were spending such a vast amount of money annually on education that they should refuse to pay a man a decent fee who had spent a large sum of his own money in educating himself for his profession. The whole thing to his mind was simply absurd. Castration ought to be never less in his opinion than 10/6, and this was the fee charged in his district when first he commenced practice there, but another veterinary surgeon commenced to charge 5/-, and so the fee got reduced.

Mr. DOBBING had not much to add to what the previous speakers had said, and agreed entirely with the views they had expressed. He feared, however, that unless we were unanimous as a profession things would just remain as they were. He would welcome something being done with reference to County Council work, and would support any proposal to increase the fees paid by County Councils to their Inspectors.

Mr. PRATT said that at the last meeting he suggested that a circular should be sent to all the members of the profession in the neighbourhood, whether members of the Association or not. This had been done, and he thought that they, as an Association, had shown a desire to do something to increase the fees. There was such a poor response to-day that so far as he could see we were perfectly helpless in the matter.

Mr. HILL had to regret the utter apathy of the profession with reference to the subject under discussion, and in his opinion, having such a poor muster after calling such a meeting, was a disgrace to the profession. Members of it would not try and improve their position. He never castrated a colt under 10/6, and would far sooner castrate ten colts at 10/6 than twenty at 5/-. Far better stop at home and castrate cats at 2/6 than colts at 5/-. He always charged 5/- for docking, but recently when he did this operation and asked 5/- for it, he was told by his client that his fee was too high, for he could get it done for 1/-. [A Voice: Let him get it done]. All the calving cases ought to be 10/6 in his opinion, and more if the case was very difficult. He was surprised to see the prices charged by quack medicine vendors for some of their preparations, and found that 6/- per dozen was charged for cough powders, for instance, when many veterinary surgeons charged less. He strongly objected to veterinary surgeons leaving cards at shoeing forges, and having medicine chests in public-houses.

Mr. WALKER, speaking as an outsider, not being a member of the Association, agreed with what had been said by previous speakers. He might say that he always charged 10/6 for castration, and whereas when he first commenced practice in his district he only castrated ten colts the first year, this year he had done 40, in spite of his opposition charging only 5s. If he was called out at night he always charged double fee, particularly in those cases where the animal had been ill all day and they came at bed-time for him. He was perfectly certain that no agreement was possible in his district with his fellow practitioner, but in spite of that he intended to keep his prices up, and he thought his experience as regards his castration justified it.

Mr. TAYLOR said he was very much disappointed at the small attendance at the meeting. He had sent out 29 circulars, and only eight veterinary surgeons had turned up, which, in his opinion, did not seem to favour any uniform scale of charge being drawn up, and being agreed upon. He thought, however, that if the Inspectors of the County Councils drew up a letter putting their case clearly before the Executive Committee that something might be done.

The PRESIDENT, in summing up, said that the discussion had only gone to prove that what he had said in his

address was true. His advice was to try and get to know your neighbours, do away with petty jealousies, put your heads together and try and get better fees, above all to value your own services, and one could not have a better illustration of this latter remark than in the case of Mr. Walker, who although he charged as much again as his opposition did for castration, was actually castrating more colts year by year.

J. H. TAYLOR, Hon. Sec. (*pro tem.*)

CAPE OF GOOD HOPE VETERINARY MEDICAL SOCIETY.

An ordinary general meeting was held at the Central Hotel, Cape Town, on Thursday, May 18th. Present: Messrs. R. W. Dixon (Vice-president), J. Forrest, J. W. Crowhurst, E. Fern, and R. Paine (Hon. Treasurer and Secretary).

The minutes of the former meeting were considered and passed.

Correspondence from the Natal V.M.A. and the Transvaal V.M.A. was considered, and the question of a meeting of delegates of the various South African Associations *re* amalgamation of Societies was fully discussed.

Mr. CROWHURST proposed that the Secretary be instructed to inform the Transvaal V.M.A. that "This Association is in favour of the meeting of delegates from the various South African Associations in Cape Town to consider the question of amalgamation, and suggests that two delegates be appointed to represent each Association, also that sufficient notice of the meeting be given for a meeting of each Association to be called for the appointment of the said delegates."

Mr. E. FERN seconded the proposal, which was unanimously carried.

ANNUAL GENERAL MEETING.

This followed the ordinary meeting, and the same members were present.

The minutes of the former meeting were considered and passed.

The Council's annual report was received:—

Your Council begs to lay before you its annual report for the year 1910-11.

The fourth annual general meeting was held on May 13th, 1910, since which date five general and six Council meetings have been conducted.

The principal points considered during this period are:—

1. Veterinary Surgeons Ordinance. Although some delay has possibly been caused, your Council is glad to be able to report that some of the points raised by the Cape of Good Hope V.M.S. have now been carried, and that it is free to act in agreement with the other Associations on the subject.

2. Amalgamation of Societies. Your Council has framed a scheme for an amalgamated British South African Association, and is unable to agree with the South African Association scheme proposed by another Association, but they hope to meet representatives of the other Associations and to come to a unanimous decision shortly.

3. Registration of Farriers in Natal.

4. The Council were advised of the formation of a Natal Veterinary Medical Association early in the year.

Regarding the payment of dues, the members have now been excused the payment for the past two years, but naturally certain expenses have been incurred by the Association during this period, and the Council trusts that its members will remember the favours already received when the next payment is due.

Two members have been excluded for non-payment of arrears, and the two members in arrear have since paid up to date, so that all members are now in good standing. One new member has joined.

The financial statement is practically the same as at the beginning of the year, viz., £139 11s. 11d. as compared with £133 11s. 8d. upon May 13th, 1910.

Members who sometimes grumble (usually inwardly) at the work achieved, are asked to remember that it is often only at great personal inconvenience that members are able to attend the different meetings, and that besides the transmission of reports of meetings (general and Council), and notices of meetings etc., during the past twelve months a matter of over 140 letters have been dealt with or despatched.

ELECTION OF OFFICERS.

President.—Mr. J. D. Borthwick.

Vice-President.—Mr. R. W. Dixon.

Hon. Treasurer and Secretary.—Mr. R. Paine.

Council.—Messrs. W. Robertson, J. Forrest, J. W. Crowhurst, J. Buck, J. W. Freer, and the representative of the A.V.C. stationed in Capetown.

CASH STATEMENT, MAY 14, 1910, to MAY, 1911.

Receipts.

Subscriptions	...	£11 11 0
Savings bank (withdrawal)	...	5 0
		£16 11 0

Payments.

Savings bank (deposit)	...	£4 4 0
Typing	...	8 5 0
Postage, Stationery, etc.	...	1 5 11
Cash in hand	...	2 16 11
		£16 11 0

It was resolved that no annual subscription be called in for the coming financial year.

The following subjects of professional interest were then discussed: Parasitic gastro-enteritis in cattle, Superpurgation in horses, Paralysis of horses, the use of aspirin in paralysis in dogs.

No further business being brought forward the meeting terminated.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LONDON.

At the meeting of the Board of Examiners held in London on July 14th for the Written, and on July 18th and 19th for the Oral and Practical Examinations, the following gentlemen passed their Third Examination:

Mr. V. Boyle
O. S. Broadhurst *
K. J. S. Dowland
J. Facer
E. S. Farbrother
J. Going
S. J. Gilbert *
W. P. Hamlyn *
A. C. Holl *
P. Howard

Mr. R. H. Knowles *
S. W. Marriott
W. F. Morton
E. B. Reynolds *
J. M. Smith
P. R. Viljoen
U. W. F. Walker
R. T. Davis
S. H. L. Woods

The following passed their Second Examination :

Mr. W. A. Austin	Mr. W. B. Howe
C. E. W. Bryan	V. J. Hare *
D. Blyth *	G. C. Harding
C. Davenport	H. Hicks *
H. W. Dawes †	W. H. Priston
G. van de W. De Kock *	J. M. L. Penhale *
G. O. R. Grey *	J. Southall
A. Hoskin *	W. L. Sheffield
R. C. G. Hancock	A. R. Symthe *

The following passed their First Examination :

Mr. C. O. A. Anderson	Mr. G. H. Melck
A. Bayly	C. Rammell
R. M. Bamford	H. C. Rockett
H. H. Curson	T. S. Roberts
H. S. Cockburn	P. S. Sparling
H. Chown	F. H. Stainton *
R. W. D. C. Eason	J. F. D. Tutt *
E. E. Jelbart	C. H. S. Townsend
A. G. E. Lalor	W. H. Wortley †

Marked thus † passed with First Class Honours.

" * " Second "

Death from Anthrax.

At St. Pancras Mr. F. Danford Thomas held an inquest on Henry Stephen Thurston, aged 24, of Broad Lane, South Tottenham, laboratory attendant at the Medical School at University College Hospital, who died in that institution from anthrax poisoning.

Dr. Marshall Cowell, Senior Resident Medical Officer, said the first intimation he had of deceased's illness was on Thursday, 6th inst., when he saw a boil on right side of his neck about the size of a shilling. The day before the dangerous character of the boil had been suspected

and a microscopical examination revealed anthrax. An immediate operation was performed in the course of an hour or two. After the operation the deceased's temperature dropped, and in a day or two he appeared to be out of danger. On Sunday his temperature began to rise again, and serum treatment was resorted to, but death ensued on Wednesday, 12th inst., from blood poisoning from anthrax bacilli.

Dr. Francis Hugo Theale, Lecturer on Bacteriology at the University College Hospital School, said he was in charge of the vaccine department. It was deceased's duty to clean up material after the students. The cause of infection in this case was that deceased must have caught hold of some tube or something which had contained the bacillus, had scratched the side of his neck, and rubbed the poison in. Such a thing ought never to have happened, every precaution being taken. Witness had about thirty students working at the School, and it was three weeks since he had lectures on these particular organisms. The students would study them for a week, and in a few days the organisms became innocuous. He could not say how it happened, unless one of the students had carelessly allowed some of the organisms to get on the outside of the tube.

The Coroner: Considering the number of laboratories about, I think it is wonderful there are not more cases.

Witness remarked that these organisms became so mild that last Christmas he injected some into two mice, and they did not die. Deceased was in rather a bad state of health at the time. The dangerous organism of glanders and farcy were all killed before they were handed round to the students. This was the only live organism handed round. He had to train medical officers, and, to become acquainted with these organisms, they must handle them.

A verdict of death from misadventure was returned. —*The Times*.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders		Counties Affected	Sheep Scab.	Swine Fever.			
	Outbreaks		Animals		Out-breaks	Animals.	(including Farcy)	Animals.			Animals Attacked	Out-breaks	Out-breaks.	Slaught-tered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported										
Gr. BRITAIN.														
Week ended July 15	8		8				3	4			61	955		
Corresponding week in	1910	12		12			5	36	London 4		3	45	265	
	1909	29		46			9	18			2	42	237	
	1908	12		21			19	50				37	294	
Total for 28 weeks, 1911	495		616		4	85	112	287		303	1461	16500		
Corresponding period in	1910	846		1022			194	561			320	823	7332	
	1909	771		1026			313	1204			461	1000	9075	
	1908	642		858	3	112	451	1439			629	1268	6558	

Board of Agriculture and Fisheries, July 18, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended July 15	...	...	...	...	...	...	...	1	2	167
Corresponding Week in	1910	...	...	...	...	...	...	2	1	3	117
	1909	...	...	...	...	...	...	4	2	9	64
	1908	...	...	...	...	...	...	...	1	3	115
Total for 28 weeks, 1911	...	5	6	...	...	2	3	44	244	69	1169
Corresponding period in	1910	5	8	...	...	1	2	40	335	62	1527
	1909	3	3	...	...	...	...	56	298	68	1093
	1908	4	7	...	...	...	...	25	270	120	2292

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 17, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Foot-and-Mouth Disease at Rye.

The Chief Veterinary Officer of the Board of Agriculture visited Road End Farm, Udimore, near Rye, Sussex, on Tuesday, and confirmed the outbreak of foot-and-mouth disease discovered on Monday.

The animals attacked comprised three cows and five calves (one dead) in the yard at the farm, and a cow and calf on marshland on the farm. The stock on Road End Farm consist of six cows, nine calves, 26 yearlings and two-year-old cattle, and 1,712 sheep and lambs, and of the sheep 29 were in the infected yard and 41 on the infected marsh, but in neither case had the disease spread to the sheep and lambs. On an adjoining farm, which is occupied by the father of the tenant of Road End Farm, and where the latter resides there are three cows, 270 sheep, and three or four pigs, and these, as well as the stock on the healthy pastures at Road End, will be kept under close observation. The usual regulations as to the movement of animals within a radius of about 15 miles from the affected farm were put in force at once.

The proximity of the seat of infection to the Romney Marshes gives rise to apprehension locally as well as to the central authorities; at this time of the year the Romney Marshes carry thousands of cattle and tens of thousands of sheep.

The sales of sheep in the district have not yet begun, lambing being later in the Romney breed of sheep than in the Downs and other longwools, and there is still time to stamp out the disease before the heavy traffic in store and breeding stock begins.—*The Times*.

Anthrax in Central Markets, London.

The following particulars concerning a recent seizure in the Central Markets are given by Dr. Collingridge in his last report to the Sanitary Committee:—

On Wednesday, May 24th, one of your meat inspectors in the Central Meat Market, while examining some pig carcasses for tuberculosis, observed one which, in his opinion, presented lesions suggestive of anthrax. Pending a diagnosis, the carcass was carefully isolated. A microscopical examination was then made by your veterinary inspector, which revealed the presence of anthrax bacilli in considerable numbers. Subsequently his diagnosis was confirmed by the assistant pathologist of the Royal Veterinary College, and also by the veterinary inspector of the Board of Agriculture, to whom specimens were sent as required by the Anthrax Order, 1910. The usual precautionary measures were taken, and everything with which the carcass had been in contact was disinfected.

USEFULNESS OF LABORATORY.

I would point out that within fifteen minutes of the discovery of the carcass a definite diagnosis had been made and the necessary measures taken to prevent any danger from spread of the infection, thus demonstrating the value of the laboratory recently established at the Central Markets, and the advisability of having the services of a scientific advisor available for such cases. Recent investigations have shown that pathological lesions in pigs that have succumbed to anthrax may be often so slight as to escape recognition without microscopical examination.—*Meat Trades' Journal*.

Balliol College Herd.

The seventeenth catalogue of the Balliol College herd of Aberdeen-Angus cattle, founded 1880, and the property of Mr. Clement Stephenson, Balliol College Farm, Long Benton, and Sandyford Villa, Newcastle-on-Tyne, has just been issued. The new catalogue is necessitated by sales from the herd, a fresh crop of calves, and new

additions to the herd. To prevent repetition, the pedigrees have been contracted, and to facilitate references the cattle are arranged alphabetically and consecutively numbered. The herd, as already mentioned, was founded in 1880, and for many years its representatives were successful in the principal showyards of the country. The preparation of cattle for showing ceased nine years ago, and since then the herd has been kept under conditions that are as near natural as possible, spending most of their time out in the open. The herd may be seen at any time on application to Mr. Clement Stephenson at the above addresses.

Mr Burns' Milk Bill to be Introduced.

It is understood that Mr. Burns proposes shortly to introduce a Bill dealing with the milk supply. A Bill was first introduced by Mr. Burns dealing with this question in 1909. But previously to this, in 1908, the London County Council introduced a General Powers Bill with clauses for dealing with the milk supply. On March 5 in that year, on the second reading stage of the Bill in the House of Commons, Mr. Courthope moved an instruction to the Committee to strike out from the Bill all clauses dealing with the milk supply other than model milk clauses, and this was agreed to, as Mr. Burns announced that the question of the milk supply would be dealt with by the Government.

Accordingly, next year Mr. Burns presented, on May 25, his Milk and Dairies Bill, the memorandum prefixed to which was as follows:—

The main objects of this Bill are to provide for—

- (1) The more effective registration of dairies and dairymen;
- (2) The inspection of dairies and the examination of cows therein;
- (3) The prohibition of the supply of milk from a dairy where such a supply has caused or would be likely to cause infectious diseases, including Tuberculosis;
- (4) The prevention of the sale of tuberculous milk;
- (5) The regulation of the importation of milk so as to prevent danger to public health arising therefrom;
- (6) The issue of regulations for securing the supply of pure and wholesome milk;
- (7) The establishment by local authorities in populous places of milk depots for the sale of milk specially prepared for infants.

The provisions as to registration supersede the provisions as to the registration of dairies contained in the Contagious Diseases (Animals) Acts and the orders made thereunder.

The provisions as to the inspection of dairies and the prohibition of the supply of milk reproduce with amendment section 4 of the Infectious Diseases Prevention Act, 1890, section 71 of the Public Health (London) Act, 1891, and the model milk clauses incorporated in many local Acts.

The clause as to the prevention of the sale of tuberculous milk is also taken from the model milk clauses, but the scope of the enactment is somewhat extended.

The Board of Agriculture and Fisheries will in connection with this Bill issue an order under the Diseases of Animals Act, 1894, dealing with the notification of tuberculosis in cattle and the inspection, examination, detention, isolation, and slaughter of tuberculous cattle and the giving of compensation in appropriate cases.

Owing, possibly, to the course of business, the last part of the session being devoted to the great struggle over the Budget, Mr. Burns' Bill had to be withdrawn, on August 20, before it was read a second time. It was not re-introduced in the next Parliament, and therefore Mr. Courthope, Mr. Walter Long, Mr. Hayes Fisher, and others brought in, on April 13, 1910, a Milk and

Dairies Bill based on the Bill introduced in the previous year by Mr. Burns. The memorandum of this Bill was as follows :

The main objects of this Bill are to provide for :

- (1) The more effective registration of dairies and dairymen ;
- (2) The inspection of dairies and the examination of cows therein ;
- (3) The prohibition of the supply of milk from a lairy where such a supply has caused or would be likely to cause infectious diseases, including tuberculosis ;
- (4) The prevention of the sale of tuberculous milk ;
- (5) The regulation of the importation of milk so as to prevent danger to public health arising therefrom ;
- (6) The issue of regulations for securing the supply of pure and wholesome milk.

The provisions as to registration supersede the provisions as to the registration of dairies contained in the Contagious Diseases (Animals) Acts and the orders made thereunder.

The provisions as to the inspection of dairies and the prohibition of the supply of milk reproduce with amendment section 4 of the Infections Diseases (Prevention) Act, 1890, section 71 of the Public Health (London) Act, 1891, and the milk clauses incorporated in many local Acts.

The clause as to the prevention of the sale of tuberculous milk is taken from the Public Health (Scotland) Act, 1897.

The Board of Agriculture and Fisheries have prepared an order under the Diseases of Animals Act, 1894, dealing with the notification of tuberculosis in cattle and the inspection, examination, detention, isolation, and slaughter of tuberculous cattle, and the giving of compensation in appropriate cases.

On the motion for the second reading of the Bill on June 14 the debate stood adjourned, and on June 20 the order for the second reading was read and discharged and the Bill withdrawn.—*The Times*.

ANNUAL REPORT FOR THE YEAR 1910 BY THE VETERINARY INSPECTOR FOR THE CITY OF LONDON (MR. T. DUNLOP YOUNG).

During the year the approximate numbers of animals killed at the Aldgate Slaughterhouses were as follows, viz. :—

Cattle	13,760
Sheep	16,304
Calves	7,672
Total	37,736

No cases of contagious disease were observed amongst those animals.

RABIES.

No suspected cases of rabies were reported during the year. The Customs Officers reported one case of contravention of the Importation of Dogs Order, 1901, Section 9 (1) (a), but on enquiry it was found that the vessel on which the dogs were at liberty had left the Port, therefore no action was taken.

GLANDERS.

This disease is gradually being eradicated in London, due to the energetic action of the London County Council. No cases were discovered amongst horses stabled within the City.

On 17th June, a "Conference on the Extirpation of Glanders" was held at the County Hall, Spring Gardens, S.W., at which representatives of the Home Counties,

the City Corporation, and certain other Corporations adjacent to London attended. The City Corporation were represented by your Chairman and late Chairman, accompanied by the Veterinary Inspector.

The following resolutions were passed unanimously :—

- (1) That the local authority should be empowered to collect and destroy infected or suspected nosebags or other articles not easily capable of disinfection, and used in connection with glandered horses.
- (2) That the local authority in all cases should be empowered to re-test a stud after a period of a month or six weeks from the first test where there has been disease.
- (3) That the proprietors of horse repositories should be required to disclose to the local authority the name and address of any vendor of a horse if the animal is subsequently found to be glandered, together with the names and addresses of the purchasers of any other animals then sold from the same stud.
- (4) That the control of the local authority should be maintained over any horse which has been tested with mallein, so long as a definite result is not obtained from the test, provided that such control should not extend beyond a maximum period of three months.
- (5) That the Public Control Committee should be asked to convene at an early date, a further Conference with representatives of the Home Counties, the City Corporation, and other Authorities adjacent to London, with a view of considering what steps can be taken to secure greater uniformity in the administration of the Glanders Orders, and that such representatives should be limited to two for each authority, including officers.

During the inspection of horses at Custom House Quay a number of them presented suspicious symptoms of glanders and were tested with mallein ; only one animal reacted ; it was at once killed and the carcass sent to a knacker's yard, where post-mortem examination confirmed the test. The London County Council and the Board of Agriculture were notified, and I understand that as a result the Officers of the former authority discovered several other horses affected with the same disease when they visited the stables from whence the animal came. Another horse affected with "Parasitic Mange," observed at Custom House Quay, was killed, and the carcass sent to a knacker's yard, where post-mortem examination showed lesions of glanders, though the animal had not presented any clinical evidence of the disease. The London County Council Officers, on proceeding to the stable from whence the animal had come, found several other horses affected with glanders.

These cases show the benefit of inspection at the Custom House Quay, and the value of post-mortem examinations at knackers' yards.

LONDON (PARASITIC MANGE) ORDER, 1909.

This is the first full year's test of the value of this Order. That it was very necessary is proved by the number of cases dealt with. The disease appears to be very prevalent within the County of London, and has no doubt given much trouble to the officers of the London County Council, to whom I beg to express my thanks for their kind assistance in dealing with cases of contagious disease. Amongst the first cases discovered within the City, I reported for prosecution a firm of meat carriers, because it is impossible to conceive a more objectionable practice than using a rug to cover a mangy horse, and then placing the same rug around the man who handles both the meat and the horse. Unfortunately the Assistant City Solicitor, after careful consideration of the case, decided that a successful prosecution could not be obtained unless the stables in which the horses are kept are within the City area, therefore

when such cases are discovered I can only obtain the name and address of the owner and notify the local authority of that district.

The greatest trouble has been where the animals were only slightly affected with the disease, the owners maintaining that the animals were suffering from a cutaneous eruption, probably due to dirt or dietetic causes, nevertheless these are the very cases that spread the disease, as the groom pays little, if any, attention to them, and proceeds to clean other horses with the same brushes as used on the affected animals, so that only by patiently, firmly and uniformly carrying out the order will this objectionable disease be eradicated.

EXPORTATION OF HORSES.

At the beginning of the year the Board of Agriculture issued a new Order *re* this traffic, requiring all local authorities concerned to appoint a Veterinary Inspector, who should examine every horse proposed to be exported to the Netherlands and Belgium and to grant a "permit" for those found suitable for shipment. This involved extra work and considerable expense; during the short time the Order was in operation it proved very satisfactory. During the year a new Act was passed by Parliament making it the duty of the Board of Agriculture to appoint Veterinary Inspectors to examine all horses presented for shipment, and giving power to charge for so doing a sum of two shillings and sixpence per horse.

The undermentioned duties have still to be carried out by your officers, viz. :—

- (a) Supervise the shipment of horses.
- (b) Note that each horse has been certified.
- (c) Note that a "Humane Killer" is carried on board ship.

From the 1st January until 30th September, 6,402 horses were examined, and 167 or 2·6 per cent. rejected by your officers; Inspection by the Board of Agriculture Officers began on 1st October, and from that date until 31st December, 3,413 horses were examined, and 44 or 1·2 per cent. rejected, making a total for the year of 9,815 horses examined and 211 rejected. Compared with the year 1909 there are shown increases of 85 in the number of horses examined, and 66 in the number rejected.

IMPORTATION OF HORSES.

During the year 388 horses were imported into the City; those were examined on arrival and found free from disease. Compared with the year 1909, these figures show an increase of 23 horses imported.

The Crochmore Donkey Case.

The First Division of the Court of Session on Wednesday, June 28th, disposed of a reclaiming note for the defender against the Lord Ordinary's interlocutor allowing issues in the action by James Lindsay, M.R.C.V.S., 35 Whitesands, Dumfries, against John Henry Ferguson, residing at Crochmore, Irongray, for £500 damages for alleged slander. The action arose out of a certificate which the pursuer gave in reference to a donkey at Crochmore in July, 1910. In the following September the defender was prosecuted, at the instance of the Society for the Prevention of Cruelty to Animals, in connection with the donkey. Thereafter the defender raised proceedings in the Small Debt Court for damages for slander in respect that the pursuer had falsely, calumniously, and maliciously granted a false certificate as to the donkey's condition. At the instance of the pursuer that action was transferred to the Sheriff's ordinary roll, and thereupon the defender intimated that he did not intend to proceed further with the case. The pursuer said that the statements made in the small debt proceedings were false and calumnious, and the defender

did not believe them to be true, and that the defender maliciously abused the process of the court for the purpose of defaming him, and deprived him of the opportunity of clearing himself by not going to trial.

The defender denies the slander, and pleads privilege. He says he was unwilling to incur the expense which proceedings in the ordinary Sheriff roll would have involved, and, accordingly, on the case being transferred there at the pursuer's instance he withdrew from it.

Lord Cullen recently approved of the issue proposed on behalf of the pursuer and of a counter-issue for the defender, after amendment.

The defender reclaimed, and on his behalf

Mr. J. Gordon Jameson submitted that the pursuer had not stated a relevant case, and that he had no averment of malice from which the jury would be entitled to draw the inference that malice inspired the statements complained of. Counsel went on to maintain that the privilege attaching to legal proceedings in court was very high, and he challenged the pursuer's counsel to produce a single decided case which would support the case which the pursuer sought to make on malice. The second point in his submission was that even if the statements complained of had been made outside and not in an action for damages for slander they would not amount to a slander for which damages could be sought. Taking it at the very best for the pursuer, if the defender had said, outside of proceedings in court altogether, that the pursuer's certificate was untrue, there could have been no action for slander.

The Lord President said the defender had gone a good deal further than that. If he had said merely that the pursuer was wrong in his opinion, his lordship agreed there might have been very little in the case; but to say that a professional man, whose business it was to grant certificates, maliciously and falsely granted a certificate that was false was a very different and a much more serious thing. The whole sting was in the statement that the pursuer maliciously and knowingly issued a false certificate.

Without calling upon Counsel for the respondent, and after consultation, their Lordships refused the reclaiming note, with expenses.

The Lord President said there was no question that the privilege which attached to a judicial statement was a very high one, but it was not absolute privilege such as attached to what was said by a judge or by a witness, and it might be rebutted by a proper proof of malice. It was also true that a mere averment of malice would not do and that there must be facts and circumstances which were, in the opinion of the Court, facts and circumstances from which the jury might take the view that malice prompted the statement. His Lordship thought that the averments here were of that character. He did not wish to say much, because he did not wish to put himself at this stage in the position of the jury which was to hear the whole evidence. All he had got to see was whether there was something which, when proved, might affect the mind of the jurymen. He thought there was. The pursuer granted a certificate as to the condition of the donkey. That certificate merely speaks as to the actual condition of the donkey. It did not make any—naturally it was not the province of a certificate to make any—allegations as to by whose fault, if by anybody's fault, the condition of soreness on the donkey's back arose. It simply spoke as to the condition of the donkey. The condition of the donkey had, in some way or another, got wind, and the Society for the Prevention of Cruelty to Animals heard of it. A prosecution was instituted by that Society against the defender, who was acquitted. Accordingly, so far as his character in not being guilty of cruelty to animals was concerned, he was vindicated. Nobody could have any difficulty about it. The pursuer then went on to say that, having conceived an ill-will against him, the

defender proceeded to take some very curious steps in connection with parading the donkey up and down, with various legends attached to its body, which were calculated to cause annoyance to the pursuer. And then he went on to say, what was a fact, that the defender raised a small debt action of damages. Now, in that small debt action of damages he made a statement, not that the certificate as granted by the pursuer was a mistaken certificate, or even merely that it was an untrue certificate, but he said that it was a certificate maliciously given out by the pursuer in order to hurt him (the defender), and given by the pursuer when he knew that the facts in it were untrue. That, of course, was a very serious charge against a professional man. Afterwards the small debt action was abandoned. There might have been a reason for that or there might not, His Lordship was not going to say. Then the pursuer went on to say that he offered to prove that this statement in the small debt action was not really made for the purpose of getting damages at all, but was really made in order to have a convenient medium of circulating this slanderous statement which His Lordship had already mentioned—slanderous, of course, if it was untrue. It seemed to His Lordship that that was a perfectly good set of facts and circumstances from which a jury might come to the view that this was all prompted by malice. On the other hand, the defender took a counter-issue and said that the statement which he made was true, namely, that the certificate as issued was a false certificate, and knowingly false to the knowledge of the pursuer. If the defender can vindicate himself in that way there was an end to the case. On the whole matter, he thought that the Lord Ordinary was right, and that he had granted a proper issue.

Lord Johnston said he confessed he had much difficulty in this case; but, as their Lordships were both agreed with the Lord Ordinary, he did not think he was justified in differing from the opinion just delivered.

Lord Mackenzie said he was clearly of opinion that the case should be decided in the way and for the reasons which had been stated by his Lordship in the chair.—*Dumfries and Galloway Saturday Standard*.

Foot-and-Mouth—The Outbreak at Rye.

A meeting of the local sub-committee under the Contagious Diseases (Animals) Acts was held at Rye, Sussex, on Wednesday, and was attended by Messrs. R. P. P. Fulford and W. B. Hooper, Inspectors of the Board of Agriculture.

The Police Inspector (Sergeant Sinclair) reported the outbreak of foot-and-mouth disease at Road End Farm, Udmore, in the occupation of Mr. Robert P. Mair. There were three cows and five calves (one dead) affected. They were moved on to the farm in the following order:—One calf from Rye on July 6; one calf from Northiam Market on June 17; one cow and calf from the Hammonds, Udmore, on April 13; and two cows from Shorncliffe on April 6. There were altogether on the farm 41 cattle, 1,712 sheep, and four horses, which had been there for some time. There was nothing at present to show how the disease was taken to the farm. The Board of Agriculture had already taken the matter under their control.

Mr. Fulford said the Chief Veterinary Inspector of the Board visited Road End Farm, and upon his recommendation an order had been issued prohibiting the moving of live stock within a specified area. The Chief Inspector found more animals affected. Some sheep had been removed to the farm from Hammond's Farm for dipping. On the adjoining farm (Float Farm, in the occupation of Mr. Corke) 22 sheep were also suffering from the disease. They would therefore realise that the situation was very serious. All possible steps would be

taken by the Board to localise the outbreak. Meanwhile, it was hoped that all owners of dogs would keep them shut up, as they conveyed the disease.

Mr. Kingsnorth Reeve said it would appear that the sheep contracted the disease through "dipping," yet he had always understood the dip contained sufficient disinfectant to stop anything of the kind.

Mr. Clifford (the local veterinary inspector) said the sheep were never thoroughly immersed, and there was the excretion. He believed the disease was first contracted by the sheep, the period of incubation in them being short. It was quite possible that the infection had been brought over by the foreign dealers. Foot-and-mouth disease was rampant on the Continent; it was very bad in France.—*The Times*.

Food and Feeding Habits of Fish.

The Halibut is a valuable and justly esteemed food fish. It is one of the largest of our fishes; a recent arrival at Billingsgate weighed over 700lb. It is easily the largest of the flat fishes, its nearest rival being the turbot. An interesting point of difference between these two fishes is that the turbot has its eyes on the right side of its head, the halibut on the left. Most of the common flat fishes, such as the plaice, flounder, and brill, resemble the turbot in this respect. The flat shape and peculiar situation of the eyes in those fishes is in correlation with their habits. They live at the bottom of the sea, and are for the most part "ground feeders." Their food, nevertheless, is extremely varied, a matter which has received much attention from the fishery authorities.

In the last annual report of the Fishery Board for Scotland, an interesting account of the food of the halibut is given by Dr. Scott. More than a thousand fish were examined, and the majority were found to have been feeding on other fishes. The haddock and whiting seem to be the favourite food of the halibut, but crabs and lobsters of various kinds are also frequently eaten. Worms and shellfish are disdained, but cuttlefish, which make a fair mouthful, find considerable favour. Other recent investigations of the same nature have been undertaken by Johnstone in the Irish Sea, and on a very large scale by Todd from Lowestoft. Johnstone devoted most attention to the plaice, and found that its food consisted, to a preponderating extent, of shellfish, and in particular the razor-shell (*Solen*). Todd found the same thing on the East Coast, but he showed further that the younger fish lived chiefly on crustaceans and worms, and that it was only as they grew older that they took to shellfish. Another interesting point he made out was that plaice practically stop feeding in November, and do not resume to any extent till March. He also found that the turbot feeds almost exclusively on fishes. These observations are more than matters of curiosity—they throw light on the habits of fishes, the trade in which is a source of considerable revenue.—*B. M. J.*

The Dublin Horse Show.

The forty-fourth annual horse show of the Royal Dublin Society is announced to take place at Ballsbridge on Tuesday, the 22nd August and three following days. Valuable money prizes, cups, etc., are offered for thoroughbred stallions, brood mares, and yearlings, hunters, riding cobs and ponies, and harness horses. Two special jumping competitions over the course are provided—one for British military officers quartered in Ireland, and the other for naval and military officers of any nationality. The entries close (single fees) on the 20th July, and (double fees) on the 27th July. For list of prizes and other particulars apply to the Agricultural Superintendent, Leinster House, Dublin.

REVIEW.

MEAT AND FOOD INSPECTORS' EXAMINATIONS. MODEL ANSWERS TO QUESTIONS SET BY THE ROYAL SANITARY INSTITUTE AND OTHER EXAMINING BODIES. Compiled by G. T. BILLING, Meat Inspector, Metropolitan Borough of Finsbury, and A. H. WALKER, Sanitary Inspector, Metropolitan Borough of St. Pancras. Pp. ix. + 156. Price, 3/6 net. (The Sanitary Publishing Co., Ltd., 5 Fetter Lane, E.C.)

The contents of this small work are fairly indicated by its title. It is chiefly intended for the use of candidates for the Meat and Food Inspectors' Examinations held by the Royal Sanitary Institute; and the great bulk of its matter consists of model answers to questions—150 in all—which have been actually set in recent examinations, the date of each question being given.

The work is prefaced by short but sufficient accounts of the regulations and the syllabus for the Royal Sanitary Institute's examinations; and the last dozen pages are occupied by a series of short imaginary *viva voce* examinations, which give a good idea of both the theoretical and practical oral requirements of the Sanitary Institute.

All such works as this are inevitably open to one grave objection—that their use is susceptible to abuse. Intended as examination guides, they may easily degenerate into the merest cram-books in the hands of some students. Having said this emphatically, we must also say that the present volume is about as unobjectionable on this score as any book written on such lines could be. So far as it goes it is remarkably accurate—indeed, with the exception of the first sentence of the model answer to Question 18 (page 15) which might be amended so as to give a clearer idea of the nature of tuberculin, we have no fault to find with its teaching. Again, it does not profess to include every point in the very extensive syllabus of the Royal Sanitary Institute—it simply illustrates the scope and depth of the examination in its various departments; and in this direction, if rightly used, it should be a very valuable guide. It will be very useful to even the veterinary candidate, who has studied far beyond the requirements of the Royal Sanitary Institute in many portions of its syllabus. It will be more useful still to the average candidate for the Meat and Food Inspectors' examinations.

W. R. C.

Personal.

MOTTRAM—PRITCHARD.—On the 18th inst., at St. James' Church, Piccadilly, James Cecil, son of the late J. A. Mottram, Esq., to Rhoda, daughter of the late Prof. W. Pritchard.

Mr. JAMES THOMPSON, M.R.C.V.S., Oban, has been appointed Veterinary Inspector for the County of Sutherland. Mr. Thomson is a Lieutenant Veterinary Surgeon to the Lovat Scouts.

Mr. L. W. WYNN LLOYD, of Carnarvon, has been appointed a Local Veterinary Inspector to the Board of Agriculture.

From a recent exchange we learn that a course of lectures and practical demonstrations in meat inspection by Mr. MAX HENRY, M.R.C.V.S., of the Stock Branch, Dept. of Agric., Sydney, was opened at the Sydney Technical College, on May 31st. The course will consist of about sixteen lectures and eight practical demonstrations at the abattoirs.

Major EDWARD COLEMAN, formerly of the Honourable Artillery Company, veterinary surgeon to the City of London Corporation, and a director of the Mitcham and Wimbledon District Gas Light Company, who died on June 9, left estate of the gross value of £123,618, of which the net personalty has been sworn at £110,909. The testator left £1000 to the Victoria Veterinary Benevolent Fund upon trust for investment, to apply the income to general purposes.

At a recent meeting of the Natal Provincial Council Mr. Schofield proposed, and it was carried: That the Council places on record its high appreciation of the work of Mr. H. Watkins-Pitchford, Government Bacteriologist, in determining the life stages and action of ticks in connection with East Coast Fever and the discovery of a laboratory dip for the destruction of tick life and the prevention of East Coast Fever and other diseases in cattle; also that in view of the great need for a continuance of varied bacteriological and other investigation, the work at Maritzburg is of the greatest importance, and care should be taken to prevent any lessening of efficiency.—*South Africa*.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, July 7.

TERRITORIAL FORCE. UNATTACHED LIST.

Albert Edward Mettam, James Joseph O'Connor, James Ferguson Craig, George Thomas Dunne, and Francis Bernard Hayes to be Lieutenants for service with the Royal Veterinary College of Ireland Contingent, Senior Division, Officers Training Corps. Dated May 18.

July 11.

REGULAR FORCES. ARMY VETERINARY CORPS.

Seconded for service with the Egyptian Army. Dated May 20th:—

Capt. F. A. S. Moore and Lieut. J. J. M. Soutar.

July 18.

ROYAL HORSE GUARDS.

Vet.-Major F. B. Drage to be Vet.-Lieut.-Colonel. Dated July 18.

CORRESPONDENCE.

ANTHRAX IN HORSES.

Sir,

I have read with interest Mr. Carter's case of anthrax in the horse. Having had to deal with many cases of this disease affecting horses, horned stock, and pigs, I thought it might be of interest to briefly refer to the symptoms as shown by the horses.

My last case, which I will call No. 1, occurred on our Corporation Sewage farm. A four-year-old cart gelding, lying out at grass, was discovered in the early morning showing symptoms of acute abdominal pain. He was brought into a loose box and on my arrival at the farm had just died. There were no external swellings of any kind, no discharge from nostrils or rectum, and the carcass was not distended, he only rolled just before death. As I knew the farm was an anthrax infected one, I made a blood smear, and microscopical examination revealed the presence of anthrax bacilli in immense numbers. The horse was seen the previous

night by the farm manager and was apparently well and grazing.

Case No. 2, on the same farm, was three-year-old cart gelding; my attention was called to him about 6.50 in the evening, the carter stating "he seemed a bit dull, and poked his head out." He thought he might be going to fall with strangles. I went back with the man to the farm, and we found the colt dead. He had been grazing with some more colts, and seemed all right in the morning. The only external symptoms was a slight swelling of the face; no discharge from nostrils, mouth, or rectum which we generally find in cattle. A blood smear was taken and anthrax bacilli were present in numbers.

Case No. 3. On another farm (not a sewage farm) a young cart horse showed the following symptoms: head, neck, and throat enormously swollen, sanguinous discharge from nostrils, making a harsh roaring noise in his respiration. He died the same night I saw him. A heifer and some pigs having died from anthrax just previously, it was evident what ailed him. Microscopical examination of blood taken from ear showed anthrax bacilli in large quantities.

I may say all these cases were confirmed by the Board of Agriculture.

I should be glad to hear the experiences of any member having had cases of this disease on *sewage farms*, and if any steps taken have been of service in checking its ravages. During the past 4½ years we have lost upwards of 26 bullocks, and the two cart horses mentioned, all cases being verified, and the majority of the animals have been cremated. We had a cessation of the disease for 14 months, and then lost *Case No. 1* and two bullocks this month. Will anyone who has had experience of the disease abroad, state if they have seen goats affected; I have not heard of a case in this country.—Yours faithfully,

CHAS. WOOD PAGE, F.R.C.V.S.

THE VETERINARY BILL.

Sir,

We have for some very considerable time had before the profession, especially in *The Veterinary Record*, the advantages we, as a profession, are going to derive when this Bill becomes law. On reading through the draught of the altered Bill the only advantage that the struggling practitioner will derive, as far as I can see, is the "pleasure" of paying a guinea a year for the doubtful advantage of being a M.R.C.V.S., after what he or his parents have paid for that advantage.

If those who framed the Bill had inserted a clause to prevent the employment of unqualified assistants, that would have been of some advantage to the veterinary profession, not only to the younger members but to the *legitimate* practitioner, as then certain M.R.C.V.S. would not be able to engage unqualified assistants at a wage and under the conditions which no self-respecting M.R.C.V.S. would accept, but it would preclude these same members of the profession from undertaking contracts etc. at a price at which they can do neither credit to the profession or themselves. I believe there is such a thing as "chickens coming home to roost," and I know "those who live in glass houses should not throw stones." If our Council were composed of men who had to obtain their living as general practitioners, they would then know more of the difficulties with which these have to contend, but being in assured positions or in receipt of a pension they know nothing of the "ups and downs" of the "common" practitioner.

ONE WHO KNOWS.

OBJECTORS TO THE BILL.

Sir,

Unless the "Devil" will belie his character and come out of his hiding, I must count him a thoroughly unworthy opponent, and decline to take any further notice of his anonymous libels, which, because they are anonymous, are a disgrace to decent correspondence.—Yours, etc.,

HENRY DYER.

Brompton. July 17.

[We differ from our correspondent in one respect. The mere fact of anonymity can in no way be disgraceful.—Ed.]

PROFESSIONAL ADVERTISING.

Sir,

I have enclosed you a cutting from *The Walthamstow Guardian*, of July 7th. Will you kindly find space in your paper for this.—Yours faithfully,

W. W. SCALES.

Plaistow, July 17.

ANIMALS HOSPITAL, LEYTON.

Mr. E. H. SCOTT, M.R.C.V.S., Lond.,

Formerly Veterinary Surgeon to Carl Hagenbeck and Wombwell and Bostock's menageries, Examiner to the Indian Government and the King of Italy, and Operative and Consulting V.S. to the Animals' Hospital, Knightsbridge, begs respectfully to inform the inhabitants of Leyton and district that he has taken over the business of Veterinary Surgeon at

727 HIGH ROAD, LEYTON.

formerly conducted by the late Mr. Charles Skelton and more recently Mr. Pinson Case.

Dogs left for board during owner's absence from home are under the care of his son, Mr. Eustace Scott.

ON SWINE FEVER.

Sir,

My conclusions as to the cause of this disease are based on the following:—

Swine fever was scheduled in the year 1879. If statistics are right, no progress has been made in its eradication.

The late Mr. Stamford Edgar, Chief Veterinary Adviser to the Kent County Authorities, said every pig harboured the disease and that it would be impossible to stamp it out unless pigs as born were put in a glass case.

In the early eighties the Kent County Authorities insisted upon the Metropolitan Authorities killing out their pedigree herd of some 400 pigs at the M.D. Asylum, and there was a thorough investigation with its usual accompaniment of ink spilling. Being engaged for several days in killing out the herd and opening every one, I saw the disease in every stage. Dr. White's earliest lesions proved to be of the nature of a perforation under the lens. Not of the nature of typhoid were the opinions of Klein, Brown, Axe, Robertson and Williams, who were then investigating swine fever.

An animal with complete strongylosis can infect some 4,000 animals during 24 hours, as per Cobbold. To wit, huck in cattle, sheep, and poultry.

Take a powerful glass directly after killing a pig and you can find the strongyle attached to the early ulcer and follow it up as per Williams' description!

The history of swine fever to a man used to investigating contagious disease will bring the question of strongylosis to the front.

Of the nature of strongylosis, phagocytosis, etc. I must plead grave ignorance, in fact as an old practitioner once expressed to me, "We know nothing until we are practically worn out as country practitioners."—Yours etc.,

GEO. UPTON.

THE "HOLIDAY" DIFFICULTY.

Sir,

There must be many practitioners who, like myself, find the expense and worry or uncertainty of locums debarring them from a change, now why cannot those who find themselves in this predicament exchange practices? The average country practice at this time of the year can be worked with little trouble, leaving ample time to enjoy the change.

Might I suggest a weekly column in your journal for those who are anxious to avail themselves of this arrangement. Speaking for myself I am open to exchange with any country practitioners, and as I reside in the Midlands I should prefer for the sake of the change either Ireland or Scotland.—Yours truly,

July 5th.

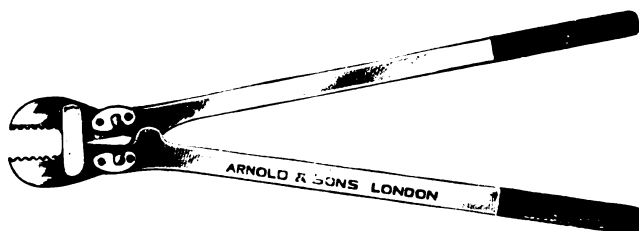
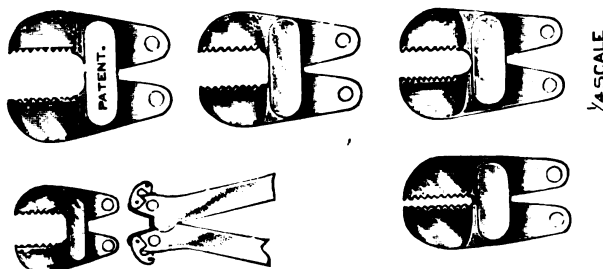
MIDLAND.

[Have other subscribers anything to say on this head.]

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President: T. SALUSBURY PRICE, Esq., M.R.C.V.S., Brixton, London, S.W.

The Annual Meeting will be held at

CARNARVON,

Wednesday and Thursday, July 26th & 27th

Annual Banquet on the evening of Wednesday, July 26th.

The Provisional Committee have arranged for the following papers:—

Veterinary Education in Relation to Public Health, Dr. O. C. BRADLEY.
Discussion opened by J. W. BRITTLEBANK, M.R.C.V.S., D.V.S.M.

Sclerostomiasis, Dr. H. E. ANNETT, M.D., D.P.H., Professor, Dr. LEIPER, M.B., F.Z.S.
Discussion opened by A. W. NOEL PILLERS, F.R.C.V.S.

Surgical Shoeing, H. SUMNER, M.R.C.V.S.
Discussion opened by E. A. WEST, F.R.C.V.S.

Principles of Economic Feeding (Horses and Cattle) H. TAYLOR, F.R.C.V.S.
Discussion opened by HAROLD A. WOODRUFF, M.R.C.V.S., Professor.

DRUGS, INSTRUMENTS, ETC.
stating space required, to—

Those desirous of exhibiting should apply at an early date,

L. W. WYNN LLOYD, Carnarvon, Hon. Sec. Provisional Committee.

Practices for Disposal

DEATH VACANCY. An opportunity of securing an old established country practice has occurred on account of death of principal. Situate in Eastern Counties. Represented as returning considerably over £400 p.a. Good contracts returning £160. Good house and premises at £45 p.a. Hunting in immediate vicinity. Further particulars and introduction only to would-be bona-fide purchasers.

15 MILES OF LONDON. A good-class mixed practice represented as returning about £650 p.a. is for immediate disposal. Capable of considerable increase. Nice and convenient house consisting of 10 rooms. Good stabling, coach-house and dog kennels. Strictest investigation courted. Good introduction will be given. Satisfactory reason for relinquishing. Further particulars on application.

DEATH VACANCY. An old established practice in a London Suburb is for immediate disposal, represented as returning £150. This amount, it is stated, can be easily increased by an energetic Practitioner. Price asked is £100 to include drugs, instruments, kennels etc. Inclusive rental of premises £1 2s. 6d. Further particulars and introduction on application

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THE PUBLISHERS bind the Annual Volume in Cloth, lettered for 3/6, or Half Roan, cloth sides, 4/6, (uniform with Vols. I. to XXII.) These prices include carriage (parcel post) one way, to country subscribers. Position of Plates is noted in Index.

Chlorodyne

FOR SALE, a large quantity of Chlorodyne, full strength, B. P. 1885, at 2/- per pound. H. J. Pratt, Wholesale Druggist, Cleckheaton.

Replies to Numbered Advertisements

WHEN replies to several of these advertisements are sent to this office at one despatch, it is not necessary that they should be stamped separately: they may be enclosed in one envelope, but should be marked outside "Replies."

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A Monthly Magazine for Horse Shoers. The only paper devoted to the interest of the Shocing Smith.

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The 24th Year

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The Record is posted to Subscribers on Friday, usually in time for the 5 p.m. collection. The normal issue consists of 16 pages of literary matter but this is varied to 20 or to 12, as may be required.

PRACTICES FOR DISPOSAL.

SOUTH EAST COAST. Receipts 1910 £415. Good house, kennels, etc. Very well fitted surgery. Rent £40. Premium £450 and valuation.

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SOUTH COAST PARTNER WANTED. Receipts about £800 per ann. Good house available at moderate rent.

YORKS. Practice principally horse and cattle. Books 1910 show £575. Large convenient house with model stables for seven horses. Well fitted surgery. Rent £75. Practice very compact and easily worked. Premium £375.

NEAR LONDON. Present hands 9 years. Small house rent £30, the practice is principally canine and is easily worked. The returns are stated to be about £400 per ann. Premium one year's purchase.

KENT. High-class mixed practice, returning about £650 per ann. Good premises to be let on lease would be sold. Premium £600.

YORKS. Premium £250. Receipts 1910, £330. Rent £40. Stables and yard almost clear rent. Good agricultural and breeding district. Present hands nearly 20 years. Good house.

LONDON. Thoroughly sound practice, established over 100 years. Receipts about £1200 p.a. Fine house and thoroughly convenient premises. Rent £90. Practice is principally horse. Receipts increasing. Premium one year's purchase.

SOUTH COAST. Old-established Practice for Sale, returning about £550 per annum. Present hands five years. Convenient house, rent moderate. Premium £500.

LONDON. Present hands 30 years. Vendor retiring. Mixed practice. Rent £75. Receipts average £1078. Premium one year's purchase. Strongly recommended.

SEASIDE. Partner Wanted in old-established Practice capable of great increase. Receipts approximate £700. Working expenses low. Good house, rent £60. Premium for half-share £350.

SOUTH OF ENGLAND. Receipts average £650. In present hands 13 years. Usual fees. Good house, three stalled stable, four loose boxes, kennels, cat house, etc. Rent £85. Delightful residential locality. Vendor is well-known to us. Premium £750.

SCOTLAND. General mixed practice returning nearly £700 per annum. Contracts and appointments produce £250 per annum. Practically no night work. Established 30 years, 17 years in present hands. Good house, property of vendor. Rent £60. Premium one year's purchase.

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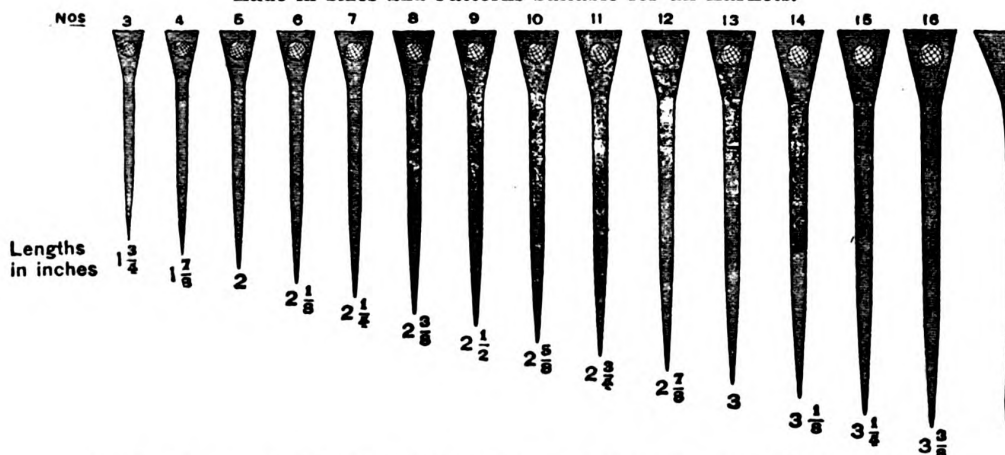
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Registered for transmission as a Newspaper.

No. 1203.

JULY 29, 1911.

(Annual Subscription, 15s.
Single copies, by post, 3½d)

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A powerful invigorant, restorative and Stimulant.
Invaluable for Race Horses, Coach Horses or any
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Each line above five—first insertion 6d; after first 3d.
Average—seven words in a line.

These Advertisements will not be inserted unless prepaid, and if replies are to be received at this office an extra sixpence must be included.

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LOCUM (Cyclist) for a fortnight, unqualified man not objected to. Reply stating terms and references to 1507 V.R., 20 Fulham Road, London, S.W.

Locum Tenens

SON and Brother of V.S. is open to engagement as locum until October, when returning to college. Highest references from well known practitioners. Address, 2507 V.R., 20 Fulham Road, London, S.W.

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RECENTLY qualified assistant, with or without intention of taking up a share in good mixed practice, chiefly equine and canine. Please state qualifications and give recent testimonials, etc. Horseman desirable. Live out. Address, 3507 V.R., 20 Fulham Rd., London, S.W.

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PRACTICAL assistant for town and country practice. State age, height, references and salary required, live out. Address, 4507 V.R., 20 Fulham Rd., London, S.W.

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M.R.C.V.S., 28, experienced, desires position as above in good-class horse and dog practice. Would not object to going abroad. Excellent references. Address, 6507 V.R., 20 Fulham Road, London, S.W.

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MEMBERS of the Profession may obtain Mallein and Tuberculin on application to the Principal, Royal Veterinary College, Camden Town N.W., on the following terms: in bottles, 6d. per dose. Minimum quantity supplied, two doses. In hermetically sealed tubes, containing one dose each (specially suitable for use abroad) 1s. per dose.

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HUGH R. SINGLETON, M.R.C.V.S.

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IMMEDIATELY, sound country practice, doing between £400 and £500. Must be sold, sacrifice. Bell and Park, Queen Street, Exeter.

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FOR London cart horse practice, recently qualified preferred; steady, sign bond. Apply, with full particulars, live out. Address, 5507 V.R., 20 Fulham Road, London, S.W.

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IN a mixed practice, Home counties, assistant for about a month. Class D student not objected to if practical. Write &c., experience, salary, references, and when disengaged to 9507 V.R., 20 Fulham Road, S.W.

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M.R.C.V.S., going abroad immediately to take up appointment, wishes to dispose of country practice, small but capable of great extension. Unopposed, good agricultural district, capital hunting, 3 packs. Small price for quick sale. Address, 5072 V.R., 20 Fulham Road, London, S.W.

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LOCUM, used to country practice, and a good horse-man, wanted on August 8th, for about a fortnight. Apply, with references and terms to S. A. Winkup, M.R.C.V.S., Montgomery, North Wales.

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LOCUM, assistant, branch manager, veterinary surgeon desires permanency, sporting, hunting, country practice. Experienced, reliable, practical, hard worker, castrate standing, good obstetrician, 34, single. Excellent references, interview. Address, 5074 V.R., 20 Fulham Road, London, S.W.

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QUALIFIED assistant for a large mixed practice, please state age, height, weight, and salary asked, also give references. Address, 5075 V.R., 20 Fulham Road, London, S.W.

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REQUIRED by thoroughly practical M.R.C.V.S., town or country. Address, 52 Brownswood Road, Finsbury Park.

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To Veterinary Surgeons

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DEATH vacancy, Staffordshire, horse and canine practice, situated in centre of town, receipts £250 per ann., could be greatly increased. Good house, and kennels; working expenses small. Good introduction. Reasonable to immediate purchaser. Address, 3075 V.R., 20 Fulham Road, London, S.W.

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M.R.C.V.S., thoroughly used to country practice and holding testimonials as to ability and general character from many practitioners, is always open to engagement when not actually filling a post. Permanent Address, "Locum," 59 Gascony Avenue, London, N.W.

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Session, 1911-1912.

This College is under the management of a representative Board of Governors and is recognised as a Central Institution under the Education (Scotland) Act, 1908. A complete course of instruction is given in the subjects of examination for the Diploma of the Royal College of Veterinary Surgeons, and the field for clinical observation is unsurpassed. The equipment of the College is being extended and modernised. Students are eligible for bursaries granted by Secondary Education Committees of the Counties and certain Burghs of Scotland.

The Matriculation Examination conducted by the Educational Institute of Scotland for intending Students will be held on 6th, 7th, and 8th July, and 7th, 8th, and 9th September.

Next Session commences on Wednesday, 27th Sep. 1911. Further particulars may be had on application to the Principal, or Alexander Russell, 54 West Nile Street, Glasgow, Secretary.

See also page VII.

Royal Veterinary College, London.

(Founded 1791.)

Principal and Dean : Professor **SIR JOHN M'FADYEAN, M.R.C.V.S., M.B., B.Sc.**

Membership Diploma of the Royal College of Veterinary Surgeons :

Complete Courses of Instruction are conducted in all the Subjects of the Examinations for this Diploma. The facilities etc., afforded for the Practical Training of Students are unrivalled.

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These Courses in Veterinary Pathology and Bacteriology are conducted under the supervision of the Principal and are specially adapted to the requirements of officers of the Army Veterinary Department, Colonial Veterinary Surgeons, Veterinary Inspectors under the Contagious Diseases of Animals Acts and Candidates for the Fellowship Diploma of the Royal College of Veterinary Surgeons.

The number of places for these Courses is limited and early application must therefore be made to prevent disappointment. The next Course will begin on Monday, October 9th, and terminate on Friday, December 1st.

The College Calendar, containing full particulars, will be forwarded on application to

The Secretary,
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The New Uterine Antiseptic

Highly recommended by many eminent
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PRICES: Ordinary Strength, White.

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Sole Proprietors—

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Veterinary Surgeons have for long keenly felt the want of something which could be used with good results as a Uterine Antiseptic and which at the same time could be quickly and easily administered. After many trials, and with the kind co-operation of some able Veterinary Surgeons of great experience in parturition cases, we have succeeded in producing

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Veterinary Surgeons in various parts have highly recommended them, and there is an increasing demand for both kinds.

Customers are requested when ordering to state which kind they prefer.

A RECENT UNSOLICITED TESTIMONIAL.

AINSWORTH WILSON, ESQ., F.R.C.V.S.,
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"I have used the Saloform Pessaries supplied by Messrs. Harkness, Beaumont & Co., of Edinburgh, with good results in various diseases of the genital organs, both in mares and cows, more especially after parturition. They are particularly useful in retention of the afterbirth, with septic complications. It is often impossible to attend more than once a day to irrigate the uterus; in such cases it is good practice to leave one or two of the "extra strong" pessaries *in situ*. I have found them an excellent substitute for Iodoform and other well known non-irritating antiseptics. I feel justified in recommending them to the profession.

Witham, Essex.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1203.

JULY 29, 1911.

VOL. XXIV.

THE NATIONAL MEETING.

The annual meeting opened on Tuesday morning, at the Guildhall, Carnarvon, with only a moderate attendance: this may be accounted for by the locality—on a coast line of railway; possibly also by doubts as to the weather, though that could scarcely be pleasanter—not too much sunshine, fresh breeze, and a very occasional passing shower.

The proceedings followed the usual course. The Association accepted the invitation of the Lancashire Society to visit their county in 1912—the jubilee year of their Society's existence: and as a not unexpected sequence, Mr. W. Woods, of Wigan, was unanimously and enthusiastically elected President for the ensuing year.

The report of the Committee on the Union of the Societies, which embodied some verbal alterations, making the revised rules a little more definite on a few points, was received and adopted, and Dr. Bradley, Mr. Gofton, and the Committee were deservedly thanked for their work. It is well over two years since this scheme was first brought forward, and now, by its completion the profession is provided with a means of concerted action, a powerful engine of defence if used, and used judiciously. The Committee was reappointed to complete details and bring the matter into working order.

Dr. Bradley's paper on "Veterinary Education" was not discussed. The discussion turned on the need for such an improvement, and the scheme itself was accepted almost *in toto*. Mr. Brittlebank, in opening, spoke strongly on the necessity for more practical teaching in meat inspection and in other matters connected with duties of veterinary surgeons employed by municipal bodies. Mr. Woods pointed out the apathetic manner in which this question of municipal employment had been put aside in previous years, and both he and Prof. Woodruff urged strongly that action should be taken at once; and the latter also expressed his conviction that the Royal College of Veterinary Surgeons might institute the proposed new Fellowship Diploma in Public Health without fear of loss—that the additional cost in examining would be met by the increase of candidates for the Degree.

The afternoon was devoted to the discussion on Dr. Annett's paper on the "Sclerostomes," opened by Mr. A. W. Noel Pillers and Dr. Leiper, and as might be expected, in the hands of such men, proved both interesting and instructive.

The Annual Banquet was held in the evening at The Sportsman Hotel, when between 60 and 70 sat down; the guests included Lady Roberts (Lady Mayoress), the Deputy Mayor and Mayoress, Dr. Parry (M.O.H.), Dr. Parry-Edwards and others. The dinner was good and well served: that most genial of chairmen, Mr. T. S. Price, was in his best form: the speeches were none of them long: the music—vocal and harp—were well selected and capitably rendered, and the function was freely acknowledged to have been a decided success.

BIER'S TREATMENT BY ELASTIC COMPRESSION.

Recently we have had some additions to the still scanty clinical records of the results obtained from Bier's compression treatment in this country. At the last meeting of the Yorkshire V.M.S., which we reported on the 8th inst., Mr. Sampson gave details of some successful cases, and Messrs. Clarkson and Pillers gave equally favourable reports from their own experience. Mr. Sampson commenced by remarking that the treatment was less widely employed by veterinary surgeons than it deserves to be, judging from the results obtained; and the general trend of the discussion seemed fully to corroborate this opinion.

Nevertheless, there is no doubt that the method is gaining ground amongst us, though perhaps rather slowly. The Yorkshire discussion revealed plenty of interest in it, and probably a similar discussion by any Society of equal size would show much the same state of affairs—some members already having experience of the treatment, others inclined to try it. There may or may not yet be a clinician in this country whose experience of the method is sufficiently extensive to encourage him to present a comprehensive paper upon it to an Association. If there is, such a paper should now be especially valuable.

The existing evidence points to the conclusion that elastic compression is a valuable addition to veterinary surgery. Some of its best veterinary results, moreover, have been gained in conditions which are not only common, but also often very unsatisfactory under older methods of treatment. Undoubtedly it has its limitations; and these should be better understood. Possibly, also, it may be found that its technique is capable of further improvement for veterinary patients; and certainly its application will always demand care. The duration of the periods of compression and the intervals between them, for instance, are not yet accurately estimated; and in this respect English clinicians hitherto seem sensibly to have kept well upon the

safe side. Some foreign ones, however, have considerably exceeded the English periods, and apparently without ill results.

Much experience and careful observation will be necessary before we can pronounce finally upon the value of this treatment. But, considering the favourable present reports of its results, and its wide applicability in veterinary practice, it deserves most careful trial from the clinician.

ABSTRACTS FROM FOREIGN JOURNALS.

THE TOTAL PROLAPSE OF THE RECTUM IN PARTURIENT MARES.

Jos. Hamoir, of Bois-Borsu, publishes a long article upon this condition, applying his remarks solely to its occurrence in mares. This accident, as is well known to all practitioners concerned with equine obstetrics, is very frequent when the expulsive efforts of the parturient mare are violent and excessive. It is not, however, confined to cases in which the parturient pains are violent and protracted, but may also occur in the course of a normal or nearly normal labour; and it is much more likely to occur when the rectum is filled to repletion with fæces. Hamoir, indeed, regards the last-named factor as a very important one; believing that its presence is essential, or at least very favourable, to prolapse.

Again, when parturition is protracted from any cause whatever, the abdominal pressure and the uterine pressure acting concurrently upon the very movable rectum may induce rectal prolapse. The condition is characterised by the appearance externally of from one foot to five feet of gut, which of course really corresponds to a total displacement of exactly double this length.

If the organ has remained a long time outside the body, so that it is œdematous, cold, purple, and more or less seriously traumatised, reduction is useless, as death is certain to follow. If, however, prolapsus appears in the presence of competent attendants, reduction is not difficult; and if too large a quantity of gut has not been extended, a favourable result may follow. It is necessary, however, to remember the secondary effects of prolapse of the rectum, which can be understood from a consideration of the anatomical relations of the organ.

A small prolapsus may leave the peri-rectal *cul-de-sac* of the peritoneum and the meso-rectum undamaged. But if the prolapsus involves two feet or more of intestine the peri-rectal peritoneum, the meso-rectum, and perhaps even the meso of the floating colon, are ruptured to a greater or less extent, constituting a fatal complication. The prolapsus may be reduced, but the portion of intestine which has been prolapsed is deprived of the vessels and nerves which previously entered its small curva-

ture between the now ruptured peritoneal envelopes. Paralysis and anæmia of the muscular coats of the intestine follows, causing gangrene in the gut, peritonitis, and speedy death.

The diagnosis of these secondary lesions is not difficult. If the visible portion of prolapsed intestine has attained a length of one foot, these complications are to be apprehended. If, when reduction has been quick and easy, constipation follows; and if exploration of the rectum reveals an open anus, a dilated and flaccid rectum, and a rectal mucous membrane dry and devoid of mucous, rupture of a portion of mesentery may confidently be diagnosed. The expulsion of gas and the immediate rejection of clysters which occur are due to the action of abdominal pressure, not to contraction of the muscular tunic of the intestine.

The condition of the animal rapidly alters for the worse. Fever appears in a few hours, and loss of appetite, constipation, straining, and dull colicky pains persist till death, which takes place in four or five days from septicæmia and peritonitis.

The progress is extremely grave. Hamoir has collected statistics of 15 cases (3 being his own) of which only one recovered, representing a mortality of more than 92%.

Treatment. Manual evacuation of the rectum, emollient clysters, and purgatives may prolong the life of the patient, but does not save it. The sole rational therapeutic measure consists in the resection of the portion of intestine which has been deprived of its vascular and nervous supply. The prolapsus should be reproduced, which is not difficult of accomplishment, and the whole of the prolapsed portion should be resected a few centimetres (1 c.m. = 4/10ths inch) from the anus. The two concentric ends of the rectum are then sutured according to surgical principles—Hamoir here refers the reader to the technique advised in Degive's *Precis de Médecine Opératoire*.

Hamoir has practised resection of the prolapse (following Lanzillotti's technique) in one only of his own three cases. In that case he failed; but undoubtedly the operation was attempted too late. The prolapse had been immediately reduced, but constipation had been evident from the moment of reduction, while the temperature rose. Hamoir did not operate until the third day, when peritonitis was already evident; and the mare only survived the operation twenty-four hours.

When the prolapse is an extensive one, Hamoir advises immediate resection, without wasting time over reduction. The latter is easy of accomplishment, but its success will be ephemeral in extensive cases.

As a precautionary measure against prolapse, Hamoir advises (basing his advice upon his above stated belief of the importance of fecal accumulations in the rectum as a causal factor) that the mare should receive one or several evacuating clysters at the commencement of labour.

These two therapeutic indications are the main conclusions of his paper.—(*Annales de Méd. Vét.*)

W. R. C.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LONDON.

At the meeting of the Board of Examiners held in London on July 14th for the Written, and on July 18th, 19th, 20th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:

Mr. R. B. Cockburn	Mr. F. F. Horton
T. J. Davis	F. C. Minnett
J. T. Edwards *	W. A. Pool
J. A. G. Gosling	S. C. Rowbotham
G. V. Golding	S. Smith
F. E. Heath	W. P. Stokes
H. E. Hornby	G. F. Steevenson *

EXAMINATIONS IN LIVERPOOL.

At the meeting of the Board of Examiners held at St. George's Hall on July 14th for the Written, and on July 19th, 20th, and 21st for the Practical Examinations, which were held at the University of Liverpool, the following gentlemen passed their Final Examination and were admitted Members of the Royal College of Veterinary Surgeons:

Mr. P. McGregor	Mr. D. R. Hoddinott
F. J. Richmond	S. K. Jones *
G. G. Howard	T. Craig

The following passed their Third Examination:—

Mr. W. Andrew	Mr. J. W. Procter
H. Sumner *	R. Isherwood *
A. L. Pollard	

The following passed their Second Examination:

Mr. A. B. Gately	Mr. C. Wadsworth
J. Blackburn *	R. Dawbney *
C. W. Elan *	J. A. Ward *

The following passed their First Examination:

Mr. R. P. Holmes †	Mr. E. N. Kinsey
G. Lloyd *	

Marked thus * passed with Second Class Honours.

" " † " " First " "

CHAS. BLACKHURST, M.R.C.V.S., Local Sec.

CENTRAL VETERINARY SOCIETY.

The last meeting of the present Session was held at the Royal College of Veterinary Surgeons, Red Lion Square, on Thursday, July 6. Mr. W. S. Mulvey, President, was in the chair, and the following Fellows signed the attendance book: Messrs. A. L. Butters, J. Willett, A. Crabb, P. W. D. Smith, N. Almond, B. Gorton, F. G. Samson, Prof. H. A. Woodruff, W. Perryman, G. H. Livesey, F. H. Sanderson, J. A. Gosling, Prof. G. H. Wooldrige, W. L. Harrison, H. D. Jones, Ainsworth Wilson, J. W. McIntosh, William Hunting, and Hugh A. MacCormack, Hon. Sec.; and as visitors, Messrs. J. S. Lloyd and R. Stokoe.

On the motion of Mr. Butters, seconded by Mr. Samson, the minutes of the last meeting were taken as read and confirmed.

CORRESPONDENCE.

Letters regretting inability to be present were received from Messrs. F. Hobday, J. T. Angwin, R. F. Foreman, E. L. Stroud, and C. Roberts.

A letter was read from the Congress of the Royal Institute of Public Health, asking for delegates to be sent to the meeting in Dublin, on August 15 to 21.

On the proposition of Prof. Woodruff, seconded by Mr. Perryman, Mr. John J. Kelly was asked to represent the Society at the Congress.

ELECTION AND NOMINATION OF FELLOWS.

Mr. G. W. LUCKING, M.R.C.V.S., Chelmsford, Essex, was unanimously elected a Fellow.

Mr. R. STOKOE, M.R.C.V.S., Chelmsford, Essex, was nominated for Fellowship, and will come up for election at the next meeting.

SPECIMENS.

Mr. SAMSON exhibited a portion of the intestine of a small terrier dog belonging to himself which he had had under observation for some time. The animal showed symptoms of unthriftiness, and somewhat arched his back, and at first it was thought to be rheumatism. Any aperient medicine given to him was vomited up on each occasion. The appetite became worse and worse, and the dog thinner, and he suddenly died. On post-mortem, about a foot from the stomach he found a sort of supernumerary growth of a portion of the intestine; very little nutriment could get by the growth, and that only in a liquid form. About 18 months before, the dog had been run over by a motor car, and laid up for some little time, and that was thought to be the origin of the condition.

Mr. JONES showed two fractured pedal bones, and one fractured navicular bone from a horse which had been admitted to the infirmary. There was a good deal of swelling round the coronet, and on the horse being destroyed it was found that the pyramidal process had gone off one pedal bone, the articular surface being fractured in the other.

Mr. PERRYMAN showed an interesting case of fracture of the two first ribs in a mare six years of age. On the previous evening she was said to come in looking perfectly sound. In the morning she had a good deal of pain and lameness on the near fore leg, and he diagnosed it as a case of fracture of the first rib. She was placed in slings but made no progress, and there was no improvement even when she wore a big shoe with support for the knee. He did not suspect fracture on the opposite side, and she never gave any indication of fracture there. It was the second case he had had in twelve months where both first ribs had been broken. In the other case the animal comported herself in exactly the same way, showing lameness on one side with fracture some two inches beyond the articulation. It had occurred to him whether it was not possible that fracture of the first rib might occur without dropping of the elbow. In the present case both fractures appeared to have occurred about the same time. He had noticed in cases of fracture of the ribs that the animal could generally walk for the first two or three days, when dropping of the elbow took place.

Professor WOODRUFF exhibited several specimens, two of them being livers of pigs. The first case was a liver containing large numbers of the *Ascaris suis*. Apparently the parasites had worked their way up the bile duct into the liver, and there was about a couple of hundred of them actually in the organ. The pig died suddenly, and the case was reported as a possible case of swine fever. The inspector making the post-mortem found the abdomen containing blood and a ruptured liver, the cause of the rupture being obviously the irritation due to the presence of the ascarides in the bile ducts.

The second specimen was of a somewhat similar nature, showing the migration of embryo tapeworms in tremendous numbers through the liver. On post-mortem the veterinary inspector found the abdomen full of blood with "something very like a rice pudding" lying on the liver, and the liver itself was ruptured and full of small cysts, not the cystic stage of the tapeworm but minute cysts something less than a pin's head, many of them containing blood. He took the parasite to be the *Tenia marginata* of the dog. The eggs had evidently been ingested by the pig in large numbers, and the embryos had migrated through the liver, and had so softened the organ that it ruptured and the pig died of internal hæmorrhage. A similar occurrence had been described in connection with lambs that had been experimentally fed with the *Tenia cœnurus* of the dog. The immense number of embryos that came through the liver at one time produced this condition of acute hepatitis, softening of the organ, rupture, and death.

The third specimen exhibited by Professor Woodruff was what was called "worm nodules" in beef. There had been a good many terrifying descriptions of what might happen by reason of the worm nodules in beef from Queensland. Recently investigations had been made at the request of the L.G.B., and the cause was found to be a parasite allied to the filaria called *Onchocerca Gibsoni*. Affected beef had been coming in large quantity into the London markets, and quarters of beef infected badly with it were being seized, but there was no danger of infection of the human subject by the parasite.

A further specimen exhibited by Prof. Woodruff was that of small concretions in cooked ham. The ham was sent to him on the supposition that the concretions were parasitic in origin. They were something like measly pork which had become calcified and dried up. He did not, however, think that was the case, as they were in the fat as well as in the muscle, and on dissecting a large number of them out it was possible to dissolve them in strong ammonia. The solution was filtered and then boiled to get rid of the ammonia gas, and then nearly evaporated to dryness, and a drop put on the slide and allowed to crystallize out, with the result that a large number of crystals of tyrosin was obtained. The concretions only occurred in pickled meat, hams, bacon, and cured meats, the small chalky-like bodies being concretions of impure tyrosin. They did no harm whatever to human beings on consumption.

Mr. LIVESEY said that during the last ten or twelve years he had had several cases of a peculiar skin disease in the dog, which he had not seen described in books and to which he could not give a name. In four out of five cases it had occurred in white-haired dogs, and had occurred as an acute dermatitis localised in several patches, varying from the size of a threepenny piece to a five shilling piece. It began with shedding of the hair and acute irritation, and in a day or two, after a certain amount of oozing of serum, a scab was formed, somewhat like a localised follicular mange, with one or two openings in it. He had not been able to find the parasites at that stage commonly found in follicular mange. After a fortnight or three weeks the condition of the patches altered, the skin became very much thickened and bluish in colour, and had lesions looking like small sinuses subcutaneous or within the skin itself, exuding a thin watery pus rather greyish in colour, and, if squeezed, very easily bled. In one dog which had plenty of spare skin he had cut the whole lot out, and the wound healed by first intention. All the cases had been most intractable to treatment by drugs, but with blackwash he had obtained some very fair results. Fomenting and compresses of antiseptics had yielded very moderate success. He thought the best results had been obtained with resin ointment and eucalyptus oil, well rubbed in, with frequent bathing.

Mr. J. WILLETT, referring to the case of double fracture of the first ribs, asked whether there was any evidence of accident. It was easy to see that on one side there had been no displacement and therefore there would be no dropping of the elbow or waste of muscle on that side. It would be interesting to know what forces were at work to cause such an accident.

Mr. W. HUNTING said the fracture on the offside, followed by no waste of muscle, was distinctly above and out of the way of the great plexus, but that on the near side, where there was dropping of the elbow, was directly under the nerve plexus. In nearly all cases it occurred at about the bottom of the upper third of the first rib. He had seen fracture of the lower part of the first rib without the slightest waste of muscle or "dropping of the elbow." He had never made a post-mortem in which both ribs were fractured, but there were two or three accounts in which he had noticed that the horse in some cases was found only on post-mortem to have double fracture, and in one case the horse was killed because he had paralysis of the opposite side. The possibility was that when there were two fractures, the one followed the other, and was due to the fact that the pressure on the two ribs was distributed upon the one that was left sound, and that was weakened to such an extent that a very slight amount of violence was required for fracture.

Prof. WOODRUFF said it was well known with what ease fractures could occur in the horse that had been unnerved; in other words, if nutrition of the bone was upset, fracture was made easier. It would be interesting to know if there was any abnormality such as fragilitas ossium in any case where fractures occurred with great ease, as they sometimes did in cases of radial paralysis or split pastern.

Mr. J. WILLETT asked whether Prof. Woodruff was of opinion that one of the fractures was caused before the other.

Prof. WOODRUFF thought if they occurred at different times the times were very near together, owing to the degree of healing in the bones being similar.

Mr. PERRYMAN said he knew nothing about the internal structure of the bone, but he thought Mr. Willis was the first to point out in England the question of fracture of the first rib, and particularly to remark about the temperament of the animal. It generally occurred in aasty sort of creature, and followed from jumping into the collar. He himself thought it was generally due to a violent muscular contraction when the animal jumped into the collar.

Mr. ALMOND thought Mr. Livesey's case was very interesting, but he had not indicated how he brought about recovery.

Mr. LIVESEY could not say that any treatment had been responsible for recovery. The best result followed the use of resin ointment, and probably was hastened by internal administration of iron and arsenic, combined with good feeding. In the next case he was going to try an injection of staphylococcus or streptococcus vaccine. He mentioned a further case of a cat brought to him suffering very badly from mange, in which he found a large number of the mange parasites on the head and neck, but in equal numbers the ear parasite on the bridge of the nose and round the shoulders. That went some way towards contradicting what was found in text-books.

Mr. HUNTING, referring to the cause of fractured first ribs, remembered a case where a horse and cart went over a sandpit, and when got out the horse had "dropped elbow," but in the majority of cases he had seen there was no fall. In one case in the King's Road, Chelsea, a 'bus horse shied at a piece of paper, hung back in his harness, and then sprang suddenly into his collar; the leg hung powerless immediately. In another case a horse was being driven near Vauxhall, and in pass-

ing under the railway bridge a train came over at the time and the horse shied, stopped suddenly, and sprang into his collar; he also had "dropped elbow" immediately. He could go so far as to say that in nearly every case of "dropped elbow" he had seen it had been in an active, quick-tempered, nervous animal, and there had been no fall.

Prof. WOOLDRIDGE alluded to the case brought forward by Mr. Price at the last meeting, in which the two first ribs were fractured, and said that the explanation that one fracture might have occurred later than the other might apply in that case.

According to the agenda the evening was to be devoted to impromptu discussions, but questions were raised upon which the discussions of the evening turned.

The first question put forward was: "Should a horse with obvious 'dissimilar' coarse hocks, going sound, be passed free from 'spavin,' and if so, how should the certificate of soundness be worded?"

Prof. WOOLDRIDGE thought it was absolutely impossible to give an opinion without examining the horse. It was possible to have a horse with dissimilar hocks perfectly sound, and he had several instances that illustrated the workability and durability of a horse with such condition. In one instance a hunter, 15-3, a very clever horse, priced at £250, was rejected by three veterinary surgeons in succession on account of difference in size of the two hocks. On the fourth occasion he was examined by a Cheshire veterinary surgeon, with whom he (Prof. Wooldridge) happened to be at the time. The veterinary surgeon, a heavy man, got on the horse, and gave him a very severe doing in circles in both directions. The horse was put in the stable and brought out again a little later (20 minutes or so) and he was absolutely free from lameness, and was passed as sound, the certificate simply stating under "recognition marks," "odd hocks." He was able to follow that horse for three seasons, and he was never known to go lame in the leg which had a large hock, though he did get stifle lameness in the other leg in the second season.

Mr. SANDERSON said he had put the question from practical experience. There were horses with hocks thick through the middle, generally at the low end of the tibia, and the astragalus seemed much larger than the other. There was free movement in both legs, and yet one hock was much larger. He mentioned the case of a horse that as yearling developed coarse hocks, one larger than the other, after recovery from influenza, and it was said he was not worth breaking in. He was broken in, however, and he was now 17 years old, and has won five point-to-point races up to and including the present year, and against fresh opposition each time. I don't wish my question to apply particularly to such cases as the latter, though, but to those in general arising without any previous history of disease.

Prof. WOODRUFF said most veterinary surgeons knew of cases where horses with odd hocks had worked and continued to work sound, but he thought the real question was, what was the right attitude to be adopted when examining the horse? It was not only necessary to protect the client, but to protect oneself. Was it wise in the majority of cases to pass such horses without question, or was it not wiser to do as the three veterinary surgeons had done, call the horse an unsound horse, having regard to the fact that in the majority of cases a horse with dissimilar hocks was liable to go lame and to become unsound? He thought that was the right attitude to take up, rather than to act upon a number of examples where horses with odd hocks were sound.

Mr. ALMOND thought it would be very often possible to keep a useful horse from passing into other hands if too rigid a view of one's interests was taken. In his

opinion, the deciding factor in all the cases was the hock action. In a case such as had been put forward, the business of the veterinary surgeon was to examine the animal very carefully, and he thought the mode of examination indicated by Prof. Wooldridge was the proper one. If the horse sustained that test, then it might be sold with the qualification "odd hocks." He should never give a certificate of soundness to a horse of that kind, but give an opinion that the horse in all probability would remain sound.

Prof. WOOLDRIDGE said his first remarks were based entirely upon abstract principles. When a specific case was put forward in which a horse at a known period of his life developed an enlargement of one hock, to his mind that was direct evidence of some diseased condition, and would be an unsoundness.

Mr. HUNTING said when he had a puzzling case he protected himself by pointing out the condition found and then saying, "which I am of opinion will not interfere with his usefulness."

Prof. WOOLDRIDGE asked Mr. Hunting whether he agreed that a horse with such hocks might not have his usefulness interfered with.

Mr. HUNTING said he did, and more than that, he thought an animal could work perfectly sound for years with two big spavins.

Mr. J. WILLETT thought we had no more right to say a horse was sound with odd hocks than to say a horse was sound with odd feet. Personally he had a great objection to write "I certify," much preferring to write a letter to his client.

Prof. WOODRUFF said such a letter if signed was as much an opinion as the stereotyped phrase, "I certify."

A further question asked was: "When a client brings a dog for exportation to such a country as Norway and asks for the usual and necessary certificate of freedom from all contagious and infectious disease, can we honestly give that certificate, and if so how should we word it?"

Mr. LIVESEY said that before a dog could be taken into Norway it had to have a certificate, and it was impossible for any veterinary surgeon to state here that a dog was absolutely free from contagious and infectious disease. He should be inclined to write a letter and say that the dog appeared to him to be healthy in every respect.

The PRESIDENT believed a letter was not accepted by the Port Authorities in Norway, but they would accept a certificate worded "to the best of my belief."

Prof. WOOLDRIDGE thought it was quite sufficient to say, "In my opinion the animal is free from contagious disease." He did not think it was reasonable to expect the veterinary surgeon to diagnose diseases in the incubative stage.

Prof. WOODRUFF said he was asked by a well known barrister to give a certificate that one of his horses was free from contagious diseases and had not been in contact with other animals suffering from contagious diseases within a certain time. But no man could possibly do that, and his reply was that if the horse was sent to the College he would keep him for a few days, subject him to the mallein test, and then write a certificate. He was told that if the horse was sent to one of the ports he could be certified at sight by the veterinary surgeon there. He replied, "You are a barrister, and I should like you to imagine my position in the box if you were the prosecuting counsel, and I had given you the certificate you asked me to give." The horse was taken to the port and he believed was certified on sight and went over to the Continent.

Prof. WOOLDRIDGE said in Ireland they required the certificate to be accompanied by a mallein chart and the temperatures of five observations.

Prof. WOODRUFF raised the question of the use of

the College Crest by practitioners, and referred to the fact that a London practitioner had successfully defended an action brought by the Revenue Department of the London County Council for using the crest. Rightly or wrongly the majority of veterinary surgeons used the crest on their letter paper; there might be two opinions whether it was wise, or judicious, or good form, but it was used by the majority of members. The London member who had defended his action was now threatened with an Appeal, and the question was whether he was to be allowed to fight that Appeal himself or was to have the moral and practical support of the profession. He had no communication from the gentleman in question on the subject, but he was well aware that law was an expensive item, and the proprietors of the two professional journals with which he and Prof. Wooldridge were connected had consented to initiate a fund by a subscription. It was a question of great interest to the profession and one where the professional interest and not the personal should be the deciding factor. Some expression of opinion from the Society would be useful as drawing the attention of the profession to the necessity of providing a fighting fund. The Pharmaceutical Society, when threatened with a similar action some time ago, successfully defended their right. In the interest of the profession he thought Mr. Kirk, the practitioner in question, ought to be helped in defending the Appeal.

Mr. HUNTING said he did not mind giving pecuniary assistance, but he would not give his moral support, as he thought the habit of using the crest was one that might well be dropped.

Mr. J. WILLETT thought it would be better if the Society waited until they were asked to assist.

Mr. SAMSON did not think Mr. Kirk or any other member would appeal to the profession, and the help would come much better from the Society subscribing individually. He believed a member belonging to a club used the club crest, and he saw no reason why a member of the College should not use the College crest.

Mr. ALMOND thought the public spirit of the member referred to was praiseworthy, and although he had never used the crest himself he was prepared to support the defence.

Mr. PERRYMAN was also in favour of giving moral and practical support to Mr. Kirk, not from any personal feeling but from a professional point of view. It would be a support to Mr. Kirk to know that he was backed up by the Society.

Mr. SAMSON moved: "That it be a recommendation from this Society to the Council that a subscription of five guineas be given towards a Defence Fund, if necessary."

Prof. WOOLDRIDGE seconded the motion, which was carried.

Prof. WOODRUFF said it was hoped the Appeal would not be brought, and therefore any promise of support was a promise only at the present time. He pointed out that the British Medical Association had a Defence Fund, and the very fact of the existence of that Fund prevented actions being brought, or if brought being dropped on account of the powerful professional backing of the member threatened. The establishment of this defence fund would not only help to defend this appeal, but if successful would enable similar actions to be defended in any part of the country.

On the proposition of Mr. J. Willett, a vote of thanks was accorded to the gentlemen who had exhibited morbid specimens, and the Session terminated.

HUGH A. MACCORMACK, *Hon. Sec.*

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

A meeting was held on Thursday, July 13th, at the Angel Hotel, Bury St. Edmunds, when the chair was taken by the President, Mr. T. G. Heatley, of Woodbridge. Members present were Messrs. W. M. Reeman, Bury St. Edmunds; P. Turner, Ixworth; E. Wright, Yoxford; F. Morton Wallis, Halstead; J. E. Godbolt, Stowmarket; E. A. Hudson, Barrow; Sidney Smith, jun., Lowestoft, hon. sec., and Mr. R. Turner, a visitor.

The following sent apologies for inability to attend: Sir J. M'Fadyean, Prof. F. T. G. Hobday, Prof. N. Almond, Messrs. W. Hunting, F. L. Gooch, H. Cantlon Reeks, T. E. Auger, T. E. Barcham, J. Barr, J. Bee, W. Bower, M. Bray, A. J. Browning, J. Cleveland, J. Hammond, A. Holl, W. W. Kerr, J. E. Kitchin, W. L. Little, T. Love, H. Low, E. Margaron, W. Shipley, S. Smith, sen., H. P. Standley, Norwich; F. B. O. Taylor, W. Waters, and H. E. Wilkinson.

The members first lunched together and the business meeting followed.

NOMINATION FOR MEMBERSHIP.

Mr. ALEC McTURK, of Swaffham, had requested the Hon. Sec., to nominate him for membership as he was a stranger in the district. The President seconded the nomination.

AMALGAMATION OF VETERINARY SOCIETIES.

The HON. SEC. read the following letter:

Royal (Dick) Veterinary College,
Edinburgh, July 8th.

Dear Sir,—I must apologise for again troubling you with regard to the above matter, but the meetings of the National Veterinary Association on the 26th and 27th inst., make it necessary for me to do so. It will not be possible for the Committee to submit a complete report unless a statement of the feelings of the members of the local Societies towards the proposed rules is placed before it and the desirability of the report being a complete one cannot be too strongly emphasised. I would therefore earnestly appeal to you to supply me, if possible, with an official intimation of the result of the discussion by your members of the proposed rules, in order that I may be able to submit it to a meeting of the Committee to be held on the 25th inst.—Yours truly,

A. GORTON, Hon. Sec. of the Committee.

Sidney Smith, Esq., junr., M.R.C.V.S.,
37 High Street, Lowestoft.

The HON. SEC. said the proposal was that each veterinary society should form a division and a certain number of them would form a branch of which latter there would be at least four, two in England and Wales and one each in Ireland and Scotland. Each division would have representatives on the Council which would govern the amalgamated society. There would be one representative for each 25 members with the Secretary *ex-officio*. Thus their Society with about 50 members would have three representatives on the Council. Membership of the National Society could be obtained in two ways. Those who were not members of a veterinary society could join the National direct on payment of 10/6 per annum, or those who were members of a veterinary society through their division for 7/6. Each division would pay an affiliation fee of 1/- per member, and for their 48 members their Society would have to pay 48/- which would entitle them to their three representatives on the Council. Only one of the rules struck him as open to criticism, viz., rule 7, by which every member of the Association undertook to contribute to its assets in the event of its being wound up, a sum not exceeding

21/- any surplus after the winding up to be expended as the Council may direct. The Provisional Committee which arranged the annual meetings would be elected by the Council. On the whole the proposals seemed reasonable and fair.

Mr. MORTON WALLIS said that amalgamation would strengthen their position as veterinary surgeons and as members of their own Society. In a few years something might arise such as had happened to the medical profession in connection with Mr. Lloyd George's Insurance Bill, when if they were banded together they might be able to do something that otherwise they could not do. It would also be useful in other things as it was always difficult to get people in the same profession or business to unite. Amalgamation would strengthen them in any action they might want to take in regard to the County Councils.

The PRESIDENT moved that the Society approved of the amended rules of the National Veterinary Association. Mr. Morton Wallis seconded, and this was carried.

TOOTH SHEARS PURCHASED.

The HON. SEC. asked for instructions as to the purchase of the new tooth shears which were shown at the annual meeting.

Mr. REEMAN proposed that the shears be purchased: Mr. Wright seconded, and this was agreed to.

NEXT MEETING.

The PRESIDENT proposed that the next meeting in September be held at Yarmouth: Mr. Wright seconded, and this was carried *un. con.*

The HON. SEC. said the President would entertain the members to lunch on that occasion.

PRESIDENTIAL ADDRESS.

T. G. HEATLEY, M.R.C.V.S., Woodbridge.

Gentlemen,—It was with mixed feelings that I accepted the office of President for the current year. I felt that it was a very high honour to be asked to preside over you, and I appreciated it very sincerely, particularly in this most notable year of His Gracious Majesty's Coronation, but at the same time I felt hardly capable of fulfilling this important office with the same brilliancy as my predecessors. However, if you will bear with me, and make allowances for any shortcomings I will use my best endeavours to carry out the duties of President of this Association. I wish to thank you most heartily for the honour you have done me.

As a country practitioner I feel somewhat out of touch with many of the big problems which affect the profession, but feel very satisfied with being represented on the Council by a man who has had large experience of town and country practice, and Public Health work; and as he is a capable speaker our interests as country practitioners will not be put in the background. Our very best thanks are due to Mr. Shipley, because attendance at Council meetings involves the expenditure of valuable time, and the outlay of a considerable sum of money. I am sure that if we think of this we shall realize what it means to a busy practitioner to attend the Council meeting regularly, and show our appreciation of his services. I would like to take this opportunity of publicly thanking Mr. Shipley for so ably representing us on the Council.

I think one of the most important matters we must keep in view is the meeting of the International Veterinary Congress in England. I feel that the honour of the profession will be put to the test, and as a considerable sum of money will be required for the entertainment of the foreign delegates, we ought to subscribe annually as liberally as our funds will permit towards a common fund which has been instituted to secure the

means whereby we can entertain members of the profession attending the Congress in a manner worthy of Great Britain. It must not be forgotten that the various foreign Governments, and even members of the Ruling Houses have given their support in grants and even in person, to the Congress when it has met in their various countries. No doubt a strong committee is being formed, who will lay the importance of the matter before the Government.

It seems an invidious distinction to refuse the rebate on the Petrol Tax to veterinary surgeons, and one wonders if those in authority appreciate the work that is being done for the prosperity of the country by members of the profession. As a country practitioner I cannot think that the Chancellor of the Exchequer can know what it has meant to agriculture within the last ten years in one disease alone, namely in the advancement of the treatment of milk fever in cattle. Formerly the percentage of deaths was very high indeed, now it is the exception to lose a case, and in this disease alone it means the saving of thousands of pounds to the country. The disease occurs usually in the deepest milkers, and we as country practitioners know what it means, to one of the Government's pet projects, viz., the small holder, if he loses a cow. It means that one of his main sources of income is gone, and the little ready money which he gets weekly to tide him over the time when his crops or garden produce are maturing is not forthcoming, and we all know that the ready money to these small holders keeps their heads above water. Again, does the Chancellor of the Exchequer appreciate the work that has been done in the case of rabies, foot-and-mouth disease, or pleuro-pneumonia. If these two latter diseases gained a firm footing in the country, previous experience has taught what it would cost to eradicate them, without taking into account the inconvenience caused to the community or the loss in the matter of sale of pedigree stock, for which Great Britain is justly noted, and to which all other countries look in order to procure animals for improving the native breeds. I say, gentlemen, that enough credit is not given to the profession for the part they play in securing the healthy condition of the stock of this country, otherwise the Chancellor of the Exchequer would not have refused the petrol rebate to veterinary surgeons. But perhaps in the light of what has happened, since, in the proposed Insurance Bill, and the great feeling of uneasiness in the medical profession against the clauses which particularly affect them, we must be grateful that we are left alone; and in the face of things I should begin to doubt that if we received some such consideration as the petrol rebate something would follow later that would be distinctly to our disadvantage.

We have before us the interim report on swine fever, and as there must be several gentlemen present who have had considerable experience of the disease at some time or other, either under the present scheme of inspectorships or when the disease was controlled by the various local authorities, I hope they will give us the benefit of their experience, and the conclusions they have arrived at, as it must be a great source of anxiety to the Veterinary Department of the Board of Agriculture, and criticism of the report would be gladly received. As we have the report before us I will make no comments, except that speaking of swine one of the greatest causes, in my opinion, of quacks being a source of trouble in some country practices is that the veterinary surgeon of the district is either unable or won't be bothered with the operation of spaying. In districts where the operation is the custom, as it is in the Eastern counties, it comes to be one of the most important sources of income from some farms, because, as you know, it is no uncommon thing for a man to keep thirty breeding sows or more. If a man sells his pigs, unless

the operation has been properly performed, it means a loss indirectly to the breeder, because buyers will fight shy of purchasing from him again, and in such a case, if the practising veterinary surgeon is not an adept, the local quack will get the work, and we all know that then he will get other work which should be in the hands of the veterinary surgeon. Only last week I was speaking to a farmer who was in the habit of selling to the cottagers in the district one or two pigs each. His pigs had been spayed by a veterinary surgeon, but the operation had been improperly performed, so that the pigs came in œstrum, and to be diplomatic he collected and took back seven sow pigs he had recently sold to cottagers. In a country district there would be nothing more calculated to damage a man's reputation, because the cottager's pig is an important item. We have all heard the student in the palmy college days speak with disdain of the operation of castrating and spaying pigs, but if he means to settle in a country district, where this operation is the custom, he must not deceive himself, and I sometimes think that this disdainful note, both in students and veterinary surgeons, is the result of inability to perform the operation. I think that every young fellow, who thinks of settling in the country, should endeavour to become an adept, because in the present day, when mechanical traction is the fashion, a country veterinary surgeon must be able to take on any work that comes along if his returns are not to diminish. I am sure that if more of the work was done by veterinary surgeons, who appreciate the importance of cleanliness, it would strengthen the hands of the authorities, because I believe many cases of swine disease that are reported as being suspicious of swine fever are conveyed by castrators whose knowledge of bacterial infection is very vague.

As to the Veterinary Surgeons Bill, our hands must be strengthened and our interests protected, and we look to the Royal College of Veterinary Surgeons to do this. But how can they do this if they are in such a financial state that they are forced to sell their already depreciated securities to carry on the work of the College? I cannot understand it. If we have any love for our *alma mater* we ought to support our Council. I cannot understand men standing out and putting every obstacle in the way of the passing of the Bill, because inside opposition is very bad, although healthy criticism is good. In reading some of the criticisms of the opponents of the Bill, I cannot but think that it is pure "cussedness" and an attempt to gain cheap notoriety at the expense of the profession as a whole. If the profession is to prosper, both financially and socially, the Royal College must be in a strong position, with funds at its back to keep up the teaching to the very highest pitch, and to be able to put a check on unprofessional conduct, because such conduct does not improve our position in the eyes of the public. We read of people asking what will be done with the money raised by an annual registration fee. Well, one thing is certain, that it will not be necessary to draw on their capital stock to carry on the work for which they obtained their Charter.

I think that there are few who give more assistance, either financially or by advice, to those who are not too well blessed with this world's goods, than the members of the veterinary profession. My conclusion is that they have got very big hearts, and I should like to impress on you that what should concern us all very strongly are the cases of genuine distress amongst widows and orphans of veterinary surgeons. We in the country know that everything depends on the head of the family in our profession. So long as he has his health things go on smoothly, but let him be laid by, by death or disease, things are very different for those he leaves behind. The professional man in the country has not the opportunity of laying by much store of this

world's goods, and the widow and children in some cases are left in a piteous condition compared with what they have been accustomed to. We have, I am glad to say, members who have instituted benevolent societies for the relieving of distress amongst the widows and orphans of members of our profession, and I am myself directly interested in the Victoria Benevolent Association. Of course we cannot all be on the Investigating Committee who control the distribution of the funds, but I firmly believe that if you could actually know some of these cases, and see the gratitude with which the help of the Society is received, there are none of you present but would assist on the spot, and you can take it from me that none but the really needy receive assistance, and that the funds are distributed to the best possible advantage.

But the principal trouble is that the Association cannot give as much assistance as it would wish owing to lack of funds, and I should like to be able to add to the list the names of all the members of this Society who do not already subscribe, because I know each of you in most weeks of your life do a good turn to some one, and by subscribing to one of these benevolent funds you would be helping those who at some time have been very closely associated with the profession, and are personally acquainted with the worries and hard work of the country practitioner.

I hope all the members will endeavour to be present at our meetings, although I know—only too well—how difficult it is sometimes for a single-handed man to get away. But if it is anyway possible, it does good to get out of the every day rut, if only for a few hours. We can discuss puzzling cases with some friend we see at these gatherings, even if the matter is not brought openly before the meeting, and I should like to see more of these cases discussed openly in a more or less informal manner. Of course I know that it is impossible for every one to attend each meeting, but in order to keep our attendances up to standard we ought to endeavour to get veterinary surgeons who are not already members to join, so that not only would our financial position be improved, but we should then have always a good muster of members at each meeting.

Mr. WALLIS said he would like to propose a hearty vote of thanks to the President for his very practical and instructive address. Mr. Reeman seconded, and the President made acknowledgment.

MORBID SPECIMENS.

The Hon. SEC. handed round some cystic calculi which had been taken from a curly coated retriever at post-mortem. The bladder was also ruptured. The case had been reported at length in *The Veterinary Record* of April 8th.

Mr. REEMAN said he had a similar case in an Aberdeen terrier, which for a long time had difficulty in passing water. The bladder was ruptured, and he took out from 12 to 20 calculi of various sizes.

Mr. HUDSON said a doctor in the town gave him two calculi which he had taken from a smooth coated fox-terrier bitch, two or three years old, which died. They were larger than those shown by Mr. Smith.

The PRESIDENT said that at the last meeting at Bury he read a paper on the removal of a foreign body from the penis of a foal. That horse was shown at the Royal Show at Norwich and got a "Commended" or "Highly commended" mark, but it had never been any trouble since. He found the foal crouched down trying to get rid of its urine. The obstruction was eight inches from the orifice, and when he drew out the latter organ he could locate the stone quite well. He cut a small opening through the lower part of the penis, and a larger one in the urethra. As soon as he cut into the urethra there was a tremendous outflow of urine which could not pass fast enough through the external opening and the penis

expanded until it was nearly as big round as his leg. He recovered the stone, and naturally expected trouble through the urine escaping into the penis, but he only saw the foal once or twice, and the hole in the urethra healed up quite satisfactorily. He did not put in any sutures. The calculus was about $\frac{3}{4}$ of an inch long. He sent it up to the College and was informed that the nucleus was epithelial cells and an accumulation of triple phosphates round it.

Mr. GONBOLD said he was called to a bull which he imagined had gravel all the way up the urethra. He had thought of cutting a hole just below the anus and inserting a tube into the bladder so that the bull could be fattened up, but he died. In the bladder were calculi as large as walnuts.

Mr. TURNER said he had operated on fatting bullocks and young stock for this trouble, but he never had much success. He had recently had a couple of cases out of one stable which had rather puzzled him. The first was a roan cart gelding, a very free and active horse, which was noticed to get into a sort of sleepy, drowsy state. If taken out of its stable and left it would stand asleep. The horse showed symptoms of cold, had a temperature and intermittent pulse, and it seemed as if influenza was coming on. There was some brain symptoms and the horse was very yellow about the membranes. It seemed to get better, but there was still a nasty colour about the membranes. He (Mr. Turner) began to think the liver was the trouble and gave some physic under which the horse improved, so much so that he ordered it to work, but at night he was sent for and found the horse in a very bad way in its stable. It could not get up, and nothing could be done with it. Next morning it was standing in its stall perfectly rigid, and neither whipping nor pushing would move it. He suggested a second opinion, but the agent was for turning the horse out and letting it take its chance. He then asked Mr. Reeman to look at the horse, but in the meantime the owner said he would not have any more doctoring but would make up some balls, and if they did not cure the animal it must be slaughtered. It was eventually sold to a slaughterer, who bought it to go abroad. He heard that they had great difficulty in getting it along, and whether it ever got to its destination he never learned.

A horse from another farm took its place and stood in the stall. After it had been there a month or six weeks it developed similar symptoms. It had not such a drowsy appearance as the first animal, but it had a temperature of 103, mouth very hot, and some discharge from the nose. It was put into the same box and treated for cold, but did not seem to get on, and had the same drowsy appearance. The fever went down, and a dose of physic was given which operated sufficiently well. The pulse went down to 33 and stuck there, and the temperature was 99. When taken out and moved about one might think there was not much the matter with the horse. He ordered it into a paddock to develop the brain symptoms. It was put to graze, but for how long nobody knew because the next heard of the horse was that it was in the canal with the water over its back leaning up against an island. It had walked over an iron fence 3ft. high and gone straight into the water to this island. With a great deal of trouble it was got out, taken home and treated in the box. It continued to have low pulse and low temperature, but the brain symptoms became more aggravated. The horse died pressing its head against the wall of the box. It was taken to the kennels where he made a post-mortem in conjunction with Mr. Reeman. This horse had shown no lung symptoms, except at first when it had a cold, and mustard was applied to the sides. But from the top of the larynx and down the trachea was extensively inflamed. Both lungs were very much inflamed and congested. The other organs seemed

quite healthy. On opening the brain there was a small effusion of a yellowish colour in the front portion, but very slight, and they could see nothing radically wrong—nothing that might have been expected. He was greatly puzzled as to the cause, but came to the conclusion it was the result of gas from an electric lighting plant, fixed up just outside the stable, which was a very bad one, lying very low and very badly ventilated. The horses slept in it all night, and as the people were not particular about cleaning out the manure there was plenty of ammonia. The electric light plant was close to the stables, and in consequence some boards were knocked out to give ventilation to the stable. This was just on the line whence the poisonous gas came. The engines were worked from 5 p.m. to 11 p.m., and the men had complained constantly of this gas and of the choking sensation it caused. Notices were put up in the engine-room as to the poisonous gas given off in the first instance. The gas was made from anthracite coal. He had been unable to ascertain its nature, and the firm who supplied the plant had written that they were unable to inform him until their managing director returned. According to what he could make out it was carbon monoxide, and he wondered if any member had had a similar experience. In the stable the first horse stood so that the gas passed over him, but the second horse caught it. The third horse was protected by a partition, and then there was a shaft where this exhaust gas was taken away. He could not account for the trouble in any other way. Formerly this gas used to be taken out by a long pipe, but recently it had been allowed to come into a pit, and it was made so that there was an escape more or less from this pit. The first gas that came off at starting was very poisonous indeed. It was difficult to prove, but it was very singular that two cases should occur on the same farm, and both horses stood in the same stall.

Mr. REEMAN said the lungs he saw at the post-mortem were in a very bad state, and one was simply black right away from the larynx downward, the mucous membranes were of the same colour and intensely congested. The liver was rather small but quite healthy, stomach all right, and also the intestines. With the exception of the lungs there was nothing in the viscera to account for the trouble. In the anterior portion of the brain was a straw-coloured fluid, but the brain was healthy, and he could find no tumour, though both horses looked as though they had some tumour of the brain. He was inclined to think with Mr. Turner that gas was the cause of the trouble. The stable was one of the worst, as there was absolutely no ventilation. This exhaust gas came quite down into the stable, and being heavy it would sink down, so that the stable was practically steeped in it all night.

The PRESIDENT said it was a very interesting case, and they were much indebted to Mr. Turner for bringing it forward. The gas was probably the trouble, and if the horses had inhaled it for some time the blood would be affected, and then the whole of the nervous system. The effusion on the brain would account for the boring of the animal's head against the wall.

INTERIM REPORT OF SWINE FEVER COMMISSION.

The HON. SEC., who opened the discussion on this subject, said the first thing that struck him was the list of people who gave evidence. The number the veterinary surgeons was surprisingly few, five in all, and three were connected in some way or other with the Board of Agriculture. The remaining two were practitioners, veterinary inspectors. He did not know whether either of these two gentlemen had much to do with the castration of pigs or not. There seemed to be no one called who was largely in touch with castration, though this was a most important item in the treatment of the disease, because the pig cutter was considered to be an

agent in carrying the disease. Otherwise the evidence was fairly representative; there were different authorities on various subjects who gave a great deal of useful evidence.

The number of confirmed outbreaks was fairly steady in spite of all the efforts made to eradicate the disease. In 1910 it was 1598, in 1909, 1650; in 1908, 2067; in 1907, 2336; and going a few years back in 1905 it was 817; in 1904 it was 1196; in 1903 it was 1478. Success was not therefore very apparent.

It was a question whether the local veterinary surgeon with his knowledge of the people and the conditions was not as well qualified to deal with the disease as a special inspector. If local practitioners were taken into account and sympathy accorded them more progress would be made.

In regard to the compulsory inspection of markets, the report stated this was carried out either at the entrance or in the pens, and he would like to know from gentlemen who were inspectors for local authorities which method they considered most satisfactory. Remuneration was a variable quantity, and while it was most desirable it should be fixed there ought to be a sliding scale according to the number of pigs or the hours put in at a market. At present it seemed to depend upon the caprice of the auctioneers. Perhaps the recommendation of the Committee that payment should be made by the local authority would have some effect.

Compensation for slaughter no doubt entailed great expense, but it was very desirable, otherwise swine fever would always be with them. At present the regulations pressed very hardly upon the man whose premises were isolated, and did not constitute a danger to anyone else. His pigs were not killed and he got no compensation, whereas if they were in a position to be a source of danger his pigs would be killed and he would get compensation.

A point raised by the Commission was the registration of operations by castrators. This was more important in the case of unprofessional castrators going about with no thought of cleanliness or of contagion. In some places the owners of boars and pig dealers kept registers, which must be a great help in tracing outbreaks. The crux of the whole thing was that there must be sympathy and accord between all persons affected—between the pig keeper and the local V.S., and the Board of Agriculture. If that could be arrived at the problem would be solved; there would be no more friction, and swine fever would be stamped out.

The PRESIDENT said that judging from the witnesses called, the Departmental Committee might have been trying to get the opinion of the general public more or less. They knew the opinions of the profession, and this might be some explanation why more V.S.'s were not called.

Mr. WRIGHT said his firm opinion was that swine fever was more or less spread through sales and markets which were not kept so clean as they might be. A farmer who found he had swine fever did not report but sent his pigs to some sale. He never knew it to break out spontaneously—it was always conveyed. He had castrated pigs for 45 years and had never known a case of swine fever except what was brought on to a farm. Where one went on a farm to which no pigs were brought, there was no swine fever, but it was often contracted when sows were taken away to boars.

Mr. GODBOLD said he had known several cases where it had broken out apparently spontaneously. He had known it to occur on farms where no pigs had been brought.

Mr. WALLIS said there was no doubt that the public were disinclined to report swine fever if they could help it. Many of his clients, if they had a pig ill or dead, sent for him in the first instance to ask what was amiss

before anything was done. If there was the least suspicion of swine fever he recommended them to report it at once. If a V.S. was sent for he had a perfect right to make a post-mortem, and was not in any way straining the law in so doing. Last week he was called to a pig that died and found the castrator had attached the bowel to the scrotum with the inevitable result.

There was certainly a good deal of friction between the local V.S. and the Board. A local V.S. if qualified to diagnose swine fever should be allowed to deal with it. There was no inducement to help the Board of Agriculture had been inspector of his market for two or three years, and it made a lot of difference. It was better for the auctioneer and better for the public, because pigs popularly called "rotters" were not sent when it was known he was going round to look at them. In the ordinary way he got 5/5 for the inspection every Tuesday, and if there were over 200 pigs he had 10/6. It was a very poor fee for examining a lot of pigs. It was paid by the County Council. Until they were all united by joining the National they would never get better fees. The proper way to stamp out swine fever was to get farmers, veterinary surgeons, and all interested to co-operate, to slaughter right out and compensate. Registration of castrations might prove a help, but he could not recall a case that had arisen in this way.

Mr. HUDSON said he thought a local V.S. if called to look at some pigs which had died was perfectly justified in making a post-mortem. It was a great inconvenience to a farmer to report his swine, especially at such times when he had fat pigs he wanted to send to market, as he might miss his market during the time he was shut up. A V.S. could help his client very much by going and giving an opinion. Swine fever was greatly spread through the markets and by pig dealers who should be licensed, like hucksters, and have to keep a register where they sent pigs. This would greatly simplify matters. There were plenty of dealers who would go and buy 200 or 300 pigs, bring them to their place and then distribute them all over the country.

Swine fever could break out apparently spontaneously where pigs were badly kept and in badly managed farmyards. Some of these were very badly drained, and not at all fit for pigs or anything else. They were losing many pigs in his district from broncho pneumonia which was killing as many as swine fever. It was very contagious, especially amongst young pigs.

Mr. REEMAN said it seemed to him that the disease was losing the virulent character it used to have; he came to this conclusion from frequently making post-mortems. Sometimes he found the acute form in only one or two pigs, and if the remainder were properly isolated they did not get it at all. Formerly one might feel certain all the rest of the pigs would get it if they were left. Pigs kept in bad sties would get into such a debilitated state that they were more likely to take the disease. There could be no doubt that infection must be conveyed. The disease could not arise of itself. He thought all pig dealers were now compelled to keep a register showing where they bought and sold pigs. He had found it the rule in Norfolk and in parts of Suffolk. One drawback was that the public were so loth to report. Under present conditions, where an infected area was confined to only one set of premises, the public should co-operate with the authorities more than they do by reporting outbreaks. The law was that when any illness was seen in pigs it should be reported at once, but unfortunately this was not always done. Payment for inspection should be under the control of the local authorities, not of the auctioneers. Undoubtedly the disease was conveyed by castrators who very often were blameless, because animals might have the disease quite badly enough to convey it to others without showing any outward symptoms of a serious disease being carried. He was a thorough believer in cleanliness, espec-

ially as to the knife and the needle. He had repeatedly seen swine fever on farms where they bred their own pigs, and had found a big outbreak where a pig had never been carried on to the place. This pointed to infection being carried some other way. In some cases it had been the greatest possible difficulty to trace, and they never had traced it, although they had made every enquiry, unless it had been carried by food. He was of opinion it could be carried by food, and especially where a lot of foreign food was used. He was convinced slaughter was the only means by which they could hope to extirpate the disease, though he feared he was inclined to take a pessimistic view. Swine fever was here, and he did not think they would ever get rid of it. One fruitful source was very bad sties. It was impossible to disinfect them, and the only thing would be to burn them down, but the owners would not agree to that. He did not believe at all in the isolation theory, and thought the only remedy was slaughter, but the owners ought to be compensated.

Mr. P. TURNER said that the reason farmers lost confidence was because so many mistakes had been made at the Board of Agriculture. He had two cases of pigs suffering from salt poisoning due to butter milk. In one case it was said to be swine fever, in the other not swine fever. In another case of a pig injured on a farm he had under the old system to send up the lesions. An inspector was sent down, who condemned the lot for swine fever. The farmer would not have the pigs slaughtered. The inspector came down in a fortnight's time, but no more pigs died. In another fortnight there was a large increase of young pigs but none died, and by and by the man was left alone. The Board was too careless in shutting up places.

The PRESIDENT said his experience had not been extensive. As he went about the country he formed the

opinion that most of the outbreaks were due to pigs bought in the markets. Then a lot of cases arose from pigs bought of certain dealers. If there were some method by which they could be prevented from dealing in screw pigs it would be helpful. Where it could be proved that they wilfully bought unhealthy pigs from farmers and exposed them for sale in a public place, they should be severely punished. Some members had confirmed the view that castrators carried the disease from one place to another. The local authorities should do something with regard to indoor sties. With the outdoor sties there was a natural process of disinfection going on, but all indoor sties should be made subject to thorough disinfection.

This closed the discussion, and the usual vote of thanks to the President concluded the meeting.

SIDNEY SMITH, JUN., Hon. Sec.

The University of Liverpool.

The Royal Lancashire Agricultural Society have awarded medals to the following students of the Veterinary School:—

Gold Medals:—*Class A*: C. W. Elam. *Class B*: R. H. Knowles. *Class C*: W. P. Stokes. *Class D*: J. R. Barker.

Silver Medals.—*Chemistry and Physics*: J. A. Ward. *Biology and Junior Anatomy*: C. W. Elam. *Senior Anatomy*: R. H. Knowles. *Physiology*: R. Isherwood. *Stable Management*: H. Sumner and V. A. Bartrum. *Materia Medica*: S. K. Jones. *Pathology, Bacteriology, Hygiene and Dietetics*: G. G. Howard. *Medicine, Surgery, and Meat Inspection*: C. W. Makinson.

JNO. SHARE-JONES,

Secretary of the Board of Veterinary Medicine.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot- and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.	
	Outbreaks		Animals				(including Farcy)		Counties Affected			
	Con- firm'd	Re- ported	Con- firm'd	Re- ported	Out- breaks	Anim- als.	Out- breaks	Anim- als.	Animals Attacked	Out- breaks	Out- breaks.	Slaugh- tered.
Gr. BRITAIN. Week ended July 22	10		13		3	278	2	3	London 2		54	1016
Corresponding week in { 1910 1909 1908		21 13 13		22 23 32			9 14 16	31 40 41		2	34 57 42	323 312 343
	Total for 29 weeks, 1911	507		631		7	363	113		289	Warwick 1	303	1515	17516
Corresponding period in { 1910 1909 1908		867 784 655		1044 1049 890			203 327 467	592 1244 1480		322 461 629	857 1057 1310	7655 9387 6901

Board of Agriculture and Fisheries, July 25, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended July 22	1	1	...	...	...	...	...	1	5	60
Corresponding Week in	{ 1910 ...	...	...	...	...	...	...	3	4	...	11
	{ 1909 ...	...	...	...	...	...	...	3	4	5	206
	{ 1908 ...	1	1	...	...	...	...	1	...	3	282
Total for 29 weeks, 1911		6	7	...	...	2	3	44	245	74	1229
Corresponding period in	{ 1910 ...	5	8	...	...	1	2	43	339	62	1538
	{ 1909 ...	3	3	...	...	...	...	59	302	73	1299
	{ 1908 ...	5	8	...	...	...	...	26	270	123	2574

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 24, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Foot-and-Mouth Disease at Rye.

On Sunday, Lord Carrington, President of the Board of Agriculture, accompanied by Lieutenant-Colonel Sir Edward Clarke, one of the superintending inspectors of the Board, conferred with some of the largest graziers in the proscribed district. He has decided, should there be no further outbreak of the disease, to issue on Wednesday next an order which will enable the removal by licence forthwith of sheep and cattle for slaughter within the outer parts of the scheduled area, including Romney Marsh; and a further special order will also be issued under which fat sheep may be sent alive out of the same outer district by special trains to the Foreign Animals Wharf at Deptford—an arrangement come to through the courtesy of the City Corporation. It is hoped that by these means some part of the inconvenience suffered by flock-masters may be overcome. The arrangements for the removal of sheep will be in the hands of the Board's inspectors at Rye, who will personally inspect the animals on their respective farms before entraining. This concession will not be extended to cattle, and the sheep on arrival at Deptford will be in charge of the officers of the Foreign Animals Wharf until they are slaughtered.—*The Times*.

The Milk Supply of Melbourne, Victoria.

Recognising the necessity for keeping this nutritious and necessary food up to a proper standard of purity, the Victorian Legislature passed laws to control both its production and distribution. Every farm that produces milk for city supply, including the cattle, fodder, water, and utensils that are used in connection with the dairy work, is under strict supervision. The milking cows are subjected to systematic manual examination by officers trained to the work; and, should any not be in satisfactory health, they are prohibited from use temporarily or permanently, according to how they are affected. The carriage and subsequent distribution of the milk is also under supervision by this same staff. The distribution is under the surveillance of another staff, whose special province it is to sample the milk as a check against its being adulterated. Samples are taken on the farms, on railway stations, and from dairies or milk waggons, at any hour of the day or night; and any one found selling an inferior, adulterated, or otherwise unwholesome product, is prosecuted forthwith. Consequently, it is likely that no food product is of a more satisfactory grade of quality than the milk supplied to those cities and towns of Victoria where the Milk and Dairy Supervision Act is enforced.

Not only as an administrative movement, protective of the public health, but as an economic proposition that has benefited largely those who are engaged in the business concerned, this Act stands out prominently as an example of successful legislation. It came into force in the Metropolitan Area in July, 1906; and the officers intrusted with the carrying out of its regulations had the task before them of raising the standard of the production and distribution of the milk supply, while at the same time it was incumbent on them to effect that result as economically as possible for the dairymen. As might have been expected under such divided control, or want of control, as previously existed, they found dairying being carried on under very varying conditions. A few places were fairly satisfactory. In some others, a little better attention to sanitary detail, and some inexpensive constructional improvements, were all that was asked for. But there were certain places where the conditions under which milk was being produced and handled were vile. These latter conditions were found to arise from ignorance, carelessness, and, in some cases, even from wilful disregard of reasonable cleanliness. Under advice, admonition, or threat of prosecution, according to their respective class, many of these keepers of in-

sanitary dairies improved both their premises and condition of working; and ultimately received the statutory licence which marks premises as satisfactory. A few others are still on the "withheld" list, which indicates that while their premises are not insanitary, they have not been kept consistently satisfactory. Those who either could not, or would not, improve in their methods, have had their application for licence refused; and in such cases further sale results in prosecution.

The scope of this Act is sufficiently comprehensive to include under its provisions all premises from which milk is distributed in even the smallest quantity, either through sale or barter. Where any such disposal of milk takes place, a licence fee must be paid, and the premises and stock inspected. The giving of milk in return for fodder or other commodity, for cattle pasturing, for services rendered, or any other sort of barter, is equivalent to a sale, and a licence must be applied for.

Before the Act came into force there were many so-called private people who kept from one to several head of cows, ostensibly for the purpose of supplying their household with dairy produce. When surplus milk was on hand they sold to their neighbours; and, in order to gain custom, it was too frequently sold at a price much lower than that charged by the dairymen. The bulk of this private milk selling took place in the spring when grass, and, consequently, milk also, were most plentiful. At other seasons these people usually had only enough for their own requirements, for their cattle had generally to sustain themselves on such scanty grazing as might then be found on the unfenced suburban allotments.

In order to hold trade, a legitimate dairyman must maintain a regular supply of milk to his customers the year through; and during the autumn and winter months he frequently does this at considerable expenditure for fodder for his cows. During the spring and early summer months, when milk is plentiful and comparatively cheaply produced, the dairyman expects to recoup himself for the extra outlay incurred in keep up the supply during the months of scarcity. Should he, however, meet with competition from unlicensed people, who, by underselling him in the spring, reduce his trade at that season, his case is hard; and much of this actually occurred before the advent of Government supervision.

Some few years ago the dairying business was rendered very unsatisfactory through the number of men who carried on "cutting" or underselling of their trade competitors as a regular procedure. At this time it was generally supposed by those in touch with the trade that "cutters" were also sellers of inferior quality milk. Subsequent events showed this conclusion to be correct in numerous instances; for the samples of their milk taken in the course of its distribution resulted in repeated prosecutions, until finally they either sold good milk at the usual price or went out of the business. With the abolition of unlicensed cowkeepers and those whose premises were kept in an insanitary condition, and through the sale of inferior milk at low prices having become unprofitable to the cutting fraternity, dairying as a business has greatly improved during the past five years. Those who were at first opposed to central supervision are now its strongest supporters; and many dairymen freely acknowledge that the Government system of supervision has been the making of their business. One of these, a large trader, volunteered the information that for several years prior to its inception he had barely held his own in trade competition; but, during the three years following the Government taking over the supervision, his business increased over 30 per cent., and it has kept on improving.

THE BUTTER FAT STANDARD.

Regarding the 3·5 per cent. butter-fat standard, as fixed by the Pure Food Standards Committee, some

retailers aver that it is unreasonable high ; but a large majority are satisfied with it. A most significant fact in its favour is the very small number of milk samples taken that have been below the standard. It is still more rare to hear of a retailer with his own farm selling inferior milk. Such dairymen are most emphatic in their approval of the standard. The quality, purity, and freshness of their milk all combine to bring them trade, and they can readily sell all they can produce. At the same time, it is recognised that in the spring flush some cows do give milk that is not quite up to standard quality during at least a short period after calving ; and if there were many such freshening in a herd at the same time, the owner might be called to account on the quality of his milk as estimated on its butter-fat content. There is little chance of this occurring where a farmer keeps up a regular supply of milk the year through, and arranges that his cows will freshen at different months throughout the year.

Many retail dairymen who are supplied by several farmers pay a retaining fee for the services of an expert analyst who tests the milk of each supplier as often as may be required. Should any fault be found the dairyman can then take steps for his own protection. Mis-statements are, however, known to occur in this connection. On one occasion, a farmer, being informed by his retailer that his milk was not up to standard quality, applied to the Board of Health for his milk to be tested on the farm. This was done, and from over thirty samples taken at different milkings there was an average result of 4.5 per cent. of butter-fat ; and none of the samples went below 4 per cent. Evidently a misstatement or deliberate adulteration had taken place somewhere ; but at least the result exonerated the cows. Those dairymen who retail milk from their own herds find no necessity for retaining the services of an analyst, as the standard does not cause them any uneasiness.

COOLING ON THE FARM.

The most common complaint retail dairymen have against their farm suppliers is their lax methods of cooling in hot weather ; and many a farmer has lost a good customer through carelessness in this matter. If carefully carried out, the usual cooling on the farm by means of well water running through a cooler will bring milk down to the required temperature. In the colder months, the temperature of the atmosphere assists in this work ; but in warm weather it retards it, and this point is often overlooked. In warm weather, the milk should be passed very slowly over the cooler in order to take full advantage of the cold water ; and if the heat is not taken out of the milk in one cooling, it will pay to run it over again. This second cooling will reduce it to the temperature required ; and it will have a chance of reaching the retailer in a satisfactory condition. When a farmer contracts to supply milk he should do his best to see that the buyer gets it in good order. It is unreasonable to expect payment for milk that cannot be sold ; and to get such milk from a farmer disorganises a dairyman's trade, causing him not only loss of time but also of custom.

One of the principal advantages of the refrigerator to the dairyman lies in the facility given for the quick and thorough reducing of the temperature of the milk by use of the brine cooler. Once cooled, it is not a difficult matter to keep milk cool, but, as mentioned, if this is not done quickly the milk soon spoils. With brine cooling, it is usual to reduce the temperature of the milk to about 45 degs., and maintain it at that, or lower, in the ice-room until sent out for distribution.

MILKING METHODS.

Another subject that has caused discussion among those interested in the fresh milk trade is the comparison, from a sanitary standpoint, of machine and hand milking. Either method may be bad and both methods may be good. If kept scrupulously clean, the machine

has an advantage over hand-milking, as it conveys the milk under protection of the tubes from the udder of the cow to the covered receiving bucket : thereby removing all risk of its being contaminated by flies, dust, or other dirt. In order to be satisfactory, hand milking calls for unremitting care in keeping the cows well groomed, and the milking shed and surroundings free from accumulation of dirt of any description. It is impossible to keep cattle in a perfect state of cleanliness in all weathers and at all seasons. This is universally recognised ; and therefore those milking conditions that were the best possible under existing circumstances have in the past been considered satisfactory. With the improvements that have been made of recent years in milking machines, they have reached a standard of efficiency that has brought them into fairly general use in many districts ; particularly where the scarcity of labour had previously been a hindrance to dairying. With their use the standard of cleanliness in milking has been raised much above what previously was the best.

The work of retailing milk under the individual owner system, as at present in vogue, is often spoken of by observers as being very expensive to the dairymen on account of the great area that is travelled over by each cart in working the several rounds. Among the many suggestions that have been put forward for remedying this are municipal, co-operative, or large proprietary depots, from which the whole of the milk for each suburb, or group of suburbs, might be distributed ; the carts each delivering to all the houses on a given route. This would certainly do away with much of the travelling that the present rounds call for ; but it would also close out all competition and individual effort, which very probably would not be to the benefit of the public. As matters now stand, they have a choice of several dairymen in every district, both in regard to hour of delivery or individual fancy in quality of milk supplied. Every dairyman also has some customers whose trade he values so highly that he would go a long way out of his usual route to serve them. It is in following customers such as this who have moved to another locality, that a dairyman often increases his round, as their recommendation will bring him more trade. Taking everything into consideration, the present working system appears to be fairly satisfactory for both consumers and suppliers.

The Model Dairy, owned by Messrs. Simonton Bros., of Kew, is one of the oldest and best arranged of the modern dairy outfits. It stands on a 3-acre block in Belmont Avenue, where the business has been established for fourteen years. The refrigerating plant was installed five years ago. This place handles 1575 gallons of milk, and 1000 pounds of butter weekly. The butter is from one of the best Victorian factories ; and is printed specially for this retail trade. The milk is produced on two farms near the outer boundary of the suburb, and is brought in from there, morning and evening, by the dairy waggon. As it is milked it is passed over the cooler, and is ready for transport to the dairy within a few minutes after the milking is finished.

Two dairies which do the largest business, and which have also been the longest fitted up in regard to refrigerating appliances, are those of the Willsmere Certified Milk Co., in Bourke St., Melbourne, and Messrs. Larcher and Sons, of Moor Street, Fitzroy. Between them, these firms handle about 18,000 gallons of milk weekly ; and to supply their *clientèle*, numbering in each instance upwards of 3,000, they carry a large vehicular equipment and staff of employés. The supply of each is drawn from several districts, and from numerous farms. Members of both firms are well known in every milk-producing district supplying the metropolis ; for both make a point of inspecting the farms from which they draw their supplies. (From *Journal of Dept. of Agric.*, Victoria, by J. S. McFadyean, Dairy Supervisor.)

Tuberculous Cow—Farmer Summoned.

At Coventry Police Court on July 17th, Alfred Henry Blyth, Binley Grange, Binley, was summoned that being a dairyman who supplied milk within the city of Coventry and had at his dairy at Binley Grange a certain cow exhibiting signs of tuberculosis of the udder, failed to give written notice of the fact to the Medical Officer of Health contrary to the Coventry Corporation Act, 1900, section 45.

Mr. W. Maddocks, for defendant, pleaded not guilty.

The Town Clerk (Mr. G. Sutton) was for the prosecution, and said that the proceedings were for non-notification to the Sanitary Authority that the cow in question exhibited signs of tuberculosis of the udder.

Mr. C. H. Wood, of the Town Clerk's office, produced the official notice of the publication of official notices as required by the act.

William Henry Clarke, Inspector of Nuisances, stated that on Thursday morning, May 18, he was near the Bull's Head Inn, Stoke, and saw Mr. Blyth with a churn of milk in a float. Witness took this sample of milk for chemical analysis, and then he obtained a specimen of mixed milk from this churn for the purpose of bacteriological examination to ascertain if the cows were giving tuberculous milk. He informed Mr. Blyth of the object of this sample, and witness submitted it to the Birmingham University the same day for the purpose of examination for tubercle bacilli. The same afternoon witness was in Bishop Street and saw a dealer named Westley in the employ of Charles Hyde, butcher. The man called witness's attention to a cow that was in the stable in the Bull and Anchor Yard, Bishop Street. The cow was extremely emaciated, and with a very large, irregular-shaped udder. Witness felt the udder; it was very hard and knotty, and it appeared to be tuberculous. It was the largest udder he had ever seen, and of most irregular shape. He called at Mr. Hyde's stable the same afternoon with Dr. Cates, who examined the udder. Witness subsequently arranged with Mr. Hyde to have the cow killed in the stable owing to its weak condition, the animal being unable to move. He visited the stable on the following Monday morning and saw the cow dead on the floor with the skin partly removed. Witness examined the organs and found them badly affected with tuberculosis. He caused the udder to be removed wholesale to the rear of the Health Department, Hay Lane. He cut into the udder in company with Dr. Snell the same day and found them full of old-standing tuberculous disease. Since that day he had visited Mr. Blyth's farm, but did not see Mr. Blyth. He met him in Bishop Street on June 24, and Mr. Blyth then stated that the milk from his old cow had not been used with the milk for a fortnight.

Mr. Maddocks cross-examined witness as to his definition of a dairy, and he replied that in the ordinary sense he thought it meant where milk was stored after it had been milked from the cow. It included a cow shed. Mr. Maddocks said that the cow in question had not been in a cow shed for milking purposes for over a fortnight previous to the 18th of May.

Mr. Maddocks: Could anybody in the world say without making a thorough and internal examination of the cow if it is suffering from tuberculosis? Witness replied that they could see that the cow exhibited the most visible signs. It was like a bag of bones, extremely emaciated, its udder was very irregular in shape, and it was six times as large as a normal udder.

Dr. Snell, Medical Officer of Health, thought that anyone could see that the udder was diseased, and that anyone knowing anything of cows should have suspected tuberculosis.

Dr. Cates, Assistant Medical Officer of Health, also gave evidence as to the condition of the cow and the state of the udder.

Mr. W. Dale, veterinary surgeon, said he saw the cow after death, and noticed the udder. He thought an udder in such a condition as this should have made one suspicious. He thought the cow must have been suffering from tuberculosis for some time.

John Westley, dealer, St. Agnes Lane, spoke to fetching the cow from Binley in accordance with instructions. He said the cow fell down on the way to Coventry, and he was obliged to procure a float to bring her to the Bull and Anchor Yard. Witness called Mr. Clarke's attention to the cow the same afternoon, and the animal was slaughtered the following Monday. Witness referred to the huskiness of the cow on the journey to Coventry, and said that this, combined with the size of the udder and its condition, led him to think that it was tuberculous. In reply to the Town Clerk witness said he drew milk from the cow the same day that he removed it, and the milk came freely.

Charles Hyde, butcher, Well Street, said Mr. Blyth asked him to send for a cow that had a bad leg. Witness asked him if it would travel, and he said "Yes." Witness sent the witness Westley out to fetch the cow, and on its arrival witness saw it. It was hardly a bag of bones, but the cow was not good enough for him. There was something the matter with the cow or it would not have had such a large udder.

By Mr. Maddocks: The cow was never intended by Mr. Blyth for food. When Mr. Blyth saw him about the cow a fortnight previously he told him to do the best he could with it.

Mr. Maddocks addressed the Bench for the defence, and submitted that no notice under the Act was given to his client. He admitted that notices were published, but such did not come to the knowledge of the defendant. Then as soon as anything was found to be wrong with the cow, defendant placed it apart from the other cows and kept it away from them. Mr. Maddocks further submitted that defendant's farm was not a dairy within the provisions of the section of the Act.

Defendant said his farm of 250 acres was a mixed one. He had sixteen or seventeen cows. A little milk was sold at the house for those living in Binley. The remainder was sent to Coventry. He had told Mr. Hyde about the cow, which had not been in the cowshed for some two or three weeks before it was fetched away. It was a common thing to have enlarged udder. He gave instructions that the cow in question was to be "dried off," and that under no circumstances was the milk from her to be put with the other milk. He had the cow put in another part of the farm, thinking that she might improve. He had never received notice to the effect that he was to report to the authorities a cow that might be suspected of having tuberculosis. He did not suspect this cow had tuberculosis. He thought possibly it was suffering from inflammation of the udder. He was quite prepared to allow a veterinary surgeon to inspect his herd of cows and to take samples of the milk. He would be only too pleased for this to be done. He admitted that the udder of this particular cow was enlarged. It had all come about since the beginning of April.

The Bench held a consultation, at the close of which the Chairman (Mr. T. B. Bethell) intimated that they had come to the conclusion that, on the evidence, there must be a conviction. The penalty would be 20s. and costs.

Mr. Maddocks said this was the first case of the kind that had been brought before him, and was so important that he should ask for the recognisances to be fixed pending an appeal. The Bench fixed these at £10.—*Midland Daily Telegraph.*

The Bank of New South Wales, the oldest banking institution in Australia, has removed from Old Broad Street to its new offices at No. 29, Threadneedle Street, E.C., London.

Personal.

Mr. AINSWORTH WILSON, recently appointed to the Chair of Surgery and Obstetrics at the Royal (Dick) Veterinary College, is at present in practice at Witham, Essex. He distinguished himself as a student of the Dick College, from which he graduated in 1894, and he obtained the Fellowship Degree of the Royal College of Veterinary Surgeons in 1903. After some time spent in Bombay, to which he was sent out by the late Prof. Walley, Mr. Wilson returned to this country, and he has held several public appointments in England and Scotland under the Board of Agriculture and in connection with the administration of the Public Health (Scotland) Act.—*N. B. A.*

Mr. HAROLD AUBREY, M.R.C.S., L.D.S., has been appointed Assistant Dental Surgeon to Guy's Hospital.

OBITUARY.

CORNELIUS CUNNINGHAM, M.R.C.V.S. Slateford, Midlothian. 1859. Graduated, Edin: April, 1880.

Mr. Cunningham died at his residence on the 22nd inst., suddenly, after a long illness. Aged 72 years.

CORRESPONDENCE.**ANTHRAX IN GOATS.**

Sir,

Those who have observed cases of anthrax in goats state that the disease is rare. The cause of the complaint in them has been ascribed to food grown on anthrax-infected ground (where carcasses have been buried). The symptoms are convulsive, reeling, tumbling, and staggering movements as well as blood discharges from the orifices of the body (Dr. G. Wilsdorf). Hutvra and Marek state that the disease is rare in goats, and other authors who write about caprines do not mention the illness.

It would be interesting to know if Mr. Page can give any reason for the "cessation of the disease for 14 months."—Yours truly,

G. MAYALL.

OBJECTORS TO THE BILL.

Sir,

So poor dear Mr. Dyer has thrown up the sponge in wrathful mood, and says he will take no further notice of my "libels" unless they cease to be anonymous—and I note that he is careful to make no definite promise to answer me even in that unlikely event. Unlikely it is, for I see no earthly reason why I should abandon my anonymity. If I really thought that the publication of my name would induce either Mr. Dyer or his allies to make some serious attempt to establish the entity of that opposition of 900 members—well, in that case, I might be tempted. But I do not think that they would dare to do anything of the sort—does their behaviour up to the present look like it? Mr. Dyer himself, after a ludicrously feeble show of fight, has adopted a policy of scuttle; and, though he endeavours to impart dignity to his retreat by reviling me over his shoulder as he runs away, I am afraid that his language only renders the completeness of his discomfiture more evident. His four heroic confederates, wiser than he, have kept as quiet as mice all the time, and have not ventured to say a word for either themselves or their circular. In fact, the whole blessed Committee, "not loving the light," is trying to hide itself away as best it can, for fear people should find out exactly how small it is; and that Mr. Dyer should invite me to "come out of my hiding" is a suitable climax to the grotesque absurdity of the whole proceeding. It was fitting that an anonymous writer should demolish this fiction of the existence of 900 opponents of the Bill, for, if there had been any difficulty in the undertaking, an anonymous writer would have been least

likely to succeed it it. Well, I have succeeded—but have I encountered any difficulties in the way? I think not—in fact I have found it such an easy task that modesty prevents me from personally coming forward to claim credit for it.

Nine hundred members opposed to the Bill—the idea! Everybody knows that the Bill could never have been presented to Parliament if there really were 900 members opposed to it—no one would have regarded such a statement seriously, if only it had been made within the profession. But the statement was made without the knowledge of the profession, and made in the hope of influencing M.P.'s who would probably see nothing incredible upon the face of it. That being so, I thought it well to demonstrate its indefensibility in the most widely-read of our professional journals; and I think that—thanks partly to the valuable assistance Mr. Dyer has given me—such demonstration is now as complete as could be wished. And so, for the present at least, in Mr. Dyer's own words, I "am content to leave judgment in the hands of all honest men." What a happy knack Mr. Dyer has of coining phrases which are capable of being throw back to him with dire effect to his own side!—Yours faithfully,

"MEPHISTOPHELES."

PROFESSIONAL FEES.

Sir,

I was much interested in the report in last week's *Veterinary Record* of the South Durham and North Yorkshire Veterinary Medical Association's special meeting, called "for the purpose of discussing professional fees, and the desirability of some uniform scale of charges being drawn up."

The necessity for such uniformity is not confined to the North of England. Some weeks ago I summoned a client for payment of an account against him for treating his cat in my infirmary, his defence was that my fees were exorbitant (I had charged him my minimum fee of 10/6 a week), and that he could have his cat treated in a veterinary surgeon's infirmary for 4/6 a week. I ventured to express considerable doubt as to the veracity of this, but was silenced by the production of the receipt.

I wrote to the firm in question, a firm occupying a prominent position amongst London veterinary surgeons, living and practising in the West End, and was courteously informed that they did take in as patients cats for 4/6 a week.

Personally, I cannot understand the reason for this, even from a business point of view. I have been in practice in West London for over twenty years, and with few exceptions have had no difficulty in getting my fee, and apart from this firm in question, I understand my neighbouring professional confrères charge the same amount.

Of course I can quite understand that in the country, and in perhaps South and East London one would have difficulty in getting 10/6 a week for infirmary treatment of a cat, but equally their rent, rates, and taxes would be much lower, and I question very much if even in these places named qualified men would be found content to work at this scale of fees.—Yours truly,

HENRY J. R. POPE.

Kensington.

THE HOLIDAY DIFFICULTY.

Sir,

Referring to "Midlands" letter re exchange of practices, I have often thought this to be a very good idea. A change they say is as good as a rest, and I think you would find the weekly column suggested by "Midland" would be appreciated by many.—Yours faithfully,

BERTRAND SECKER, M.R.C.V.S.

Malvern Link. July 25.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of the writers, not necessarily for publication.

Veterinary Societies—Addresses.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH
Pres: Mr. William Robb, F.R.C.V.S., Glasgow.
Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,

Moore Street, Abattoir, Glasgow

BORDER COUNTIES V.M.S.
Pres: Mr. J. W. Hewson, M.R.C.V.S., Wighton
Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,

Dalegarth, Windermere

CAPE OF GOOD HOPE V.M.S.
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CENTRAL V.S.
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 Skansen, Baddow Road, Chelmsford

Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S.,
 122 St. George's Avenue, Tufnell Park, N.
Meetings, First Thursday in each month, except August
 and September, 10 Red Lion Square, Holborn, at 7 p.m.

CENTRAL CANADA V.A.
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CENTRAL V.A. OF IRELAND.
Pres: Mr. J. F. Healey, M.R.C.V.S., Middleton
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GLASGOW V.M.S.
Pres. Principal McCall.
Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas.
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 Municipal Buildings, Cork Hill, Dublin
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Meetings, 1st Thursday in April, June, Sept., & Dec.

LINCOLNSHIRE V.M.S.
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 Arnold Richardson, M.R.C.V.S.,
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Meetings, Second Tuesday, Wednesday, Thursday, and
 Friday alternately in Feb., May, Aug. and Nov

NATAL VETERINARY MEDICAL ASSOCIATION.
Pres. Mr. H. Watkins Pitchford, Govt. Bacteriologist,
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Hon. Sec. & Treas. Mr. J. B. Collyer,
 Vety. Inspector Natal Police, Pietermaritzburg

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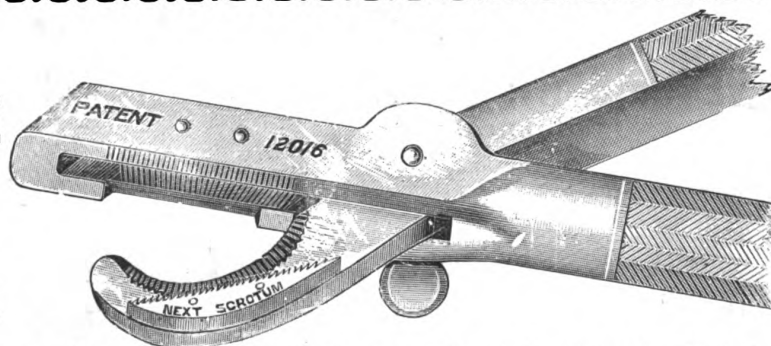
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PRACTICES FOR DISPOSAL

SOUTH EAST COAST. Receipts 1910 £415. Good house, kennels, etc. Very well fitted surgery. Rent £40. Premium £450 and valuation.

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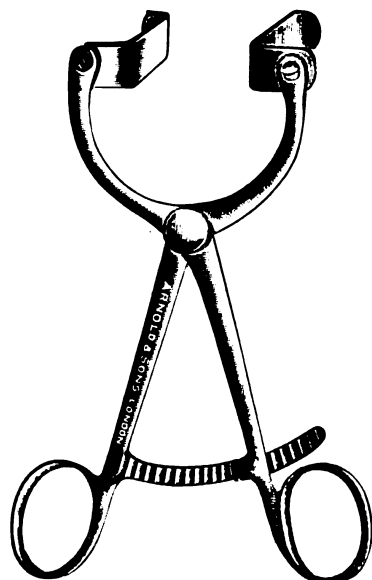
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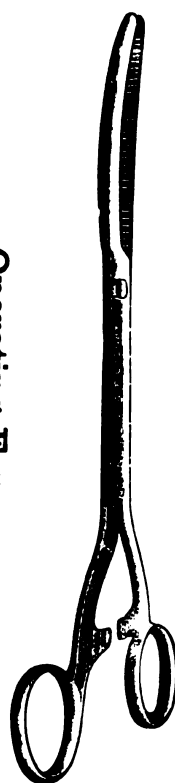


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No. 1204.

AUGUST 5, 1911.

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These Advertisements will not be inserted unless prepaid, and if replies are to be received at this office an extra sixpence must be included.

Midland Counties V.M.A.

A Meeting will be held at the Grand Hotel, Birmingham, on Wednesday, August 9th, at two p.m. The President, H. L. Pemberton, Esq., will occupy the chair. Agenda: Routine business: Discussion on "Anthrax," (read at the last meeting) by Stewart Stockman, Esq., Chief veterinary Officer of the Board of Agriculture. Tea at 5 o'clock.

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To Veterinary Surgeons

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To See Practice.

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Highly recommended by many eminent
Veterinary Surgeons.

PRICES: Ordinary Strength, White.

4/6 per doz. 48/- per gross.

Extra Strong, Yellow.

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Veterinary Surgeons have for long keenly felt the want of something which could be used with good results as a Uterine Antiseptic and which at the same time could be quickly and easily administered. After many trials, and with the kind co-operation of some able Veterinary Surgeons of great experience in parturition cases, we have succeeded in producing

a Pessary made with a **non-oily base** which does its work efficiently and at the same time is non-irritant—in fact, soothing in its effect. They are of great use in parturition in cows or mares; and if administered immediately after parturition they will keep the Uterus clean and healthy, and prevent the after-birth becoming foul.

Veterinary Surgeons in various parts have highly recommended them, and there is an increasing demand for both kinds.

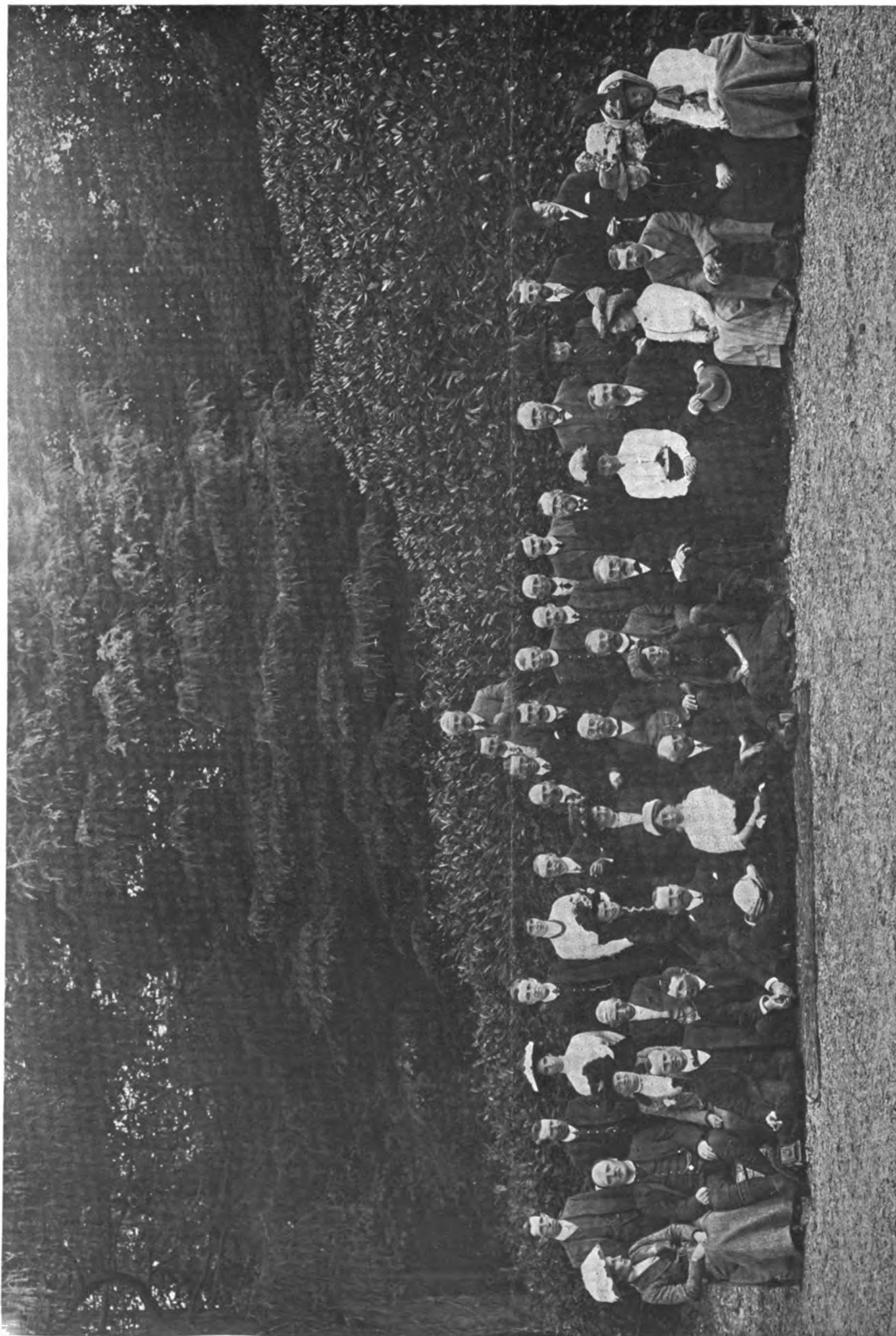
Customers are requested when ordering to state which kind they prefer.

A RECENT UNSOLICITED TESTIMONIAL.

AINSWORTH WILSON, ESQ., F.R.C.V.S.,
writes:—

"I have used the Saloform Pessaries supplied by Messrs. Harkness, Beaumont & Co., of Edinburgh, with good results in various diseases of the genital organs, both in mares and cows, more especially after parturition. They are particularly useful in retention of the afterbirth, with septic complications. It is often impossible to attend more than once a day to irrigate the uterus; in such cases it is good practice to leave one or two of the "extra strong" pessaries *in situ*. I have found them an excellent substitute for Iodoform and other well known non-irritating antiseptics. I feel justified in recommending them to the profession.

Witham, Essex."



NATIONAL VETERINARY ASSOCIATION. THE NORTH WALES SOCIETY'S EXCURSION.

GROUP AT THE ROYAL VICTORIA HOTEL, LLANBERIS, JULY 28th, 1911.

Photo. J. Wickens, Upper Bangor.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1204.

AUGUST 5, 1911.

VOL. XXIV.

COUNTRY PRACTICE.

In a recent Presidential address, the opinion was expressed that veterinary surgeons would do well to give more attention to pig-spaying. There is much truth in this for some districts, and for none more than the Eastern counties, to which the speaker—Mr. Heatley, of Woodbridge—especially referred. Taking country practice as a whole, it may well be asked whether practitioners are well-advised in so frequently neglecting the minor surgery of the farm, and especially the castration of ruminants and pigs.

These operations are chiefly in the hands of unqualified men, many of whom, by long practice, become exceedingly dexterous in their performance. A veterinary surgeon could more easily attain an equal facility in manipulation; and every one contemplating settling in country practice would do well to first become adept in this particular department of it. Whether he may elect to become one of the regular castrators of his district will depend upon circumstances. There are practices in which this work may very well be refused, but there are others in which it may become a very valuable addition to the income.

Castration is unpleasant, monotonous, and poorly-paid work, and these three reasons probably explain by so many veterinary surgeons refuse it; but there are many districts in which it is both directly and indirectly advantageous to the practitioner. Unremunerative as it is from one point of view, the direct advantage of including it in the regular day's work is often relatively very great. The indirect advantage is—that the unqualified castrator is very often also more or less of an unqualified general practitioner, and, if superior to the veterinary surgeon in one or two operations, may be held to equal him in other respects. Obviously these men are less dangerous opponents to a veterinary surgeon who can rival them in their own specialty.

There are many country districts capable of yielding a fair income to a veterinarian who, in Mr. Heatley's words, is "able to take on any work that comes along," but which will hardly yield a living to one of less all-round capacity. That was true even before the advent of motor traction, and its truth applies much more forcibly to-day. A working country practice has its disadvantages, and the minor surgery of the farm is certainly not one of its most pleasant features. But it is a branch of surgery with which every aspirant to country practice should thoroughly fit himself to deal.

CONTUSION "CAPPED ELBOW."

Capped elbow is perhaps more common amongst Army horses than in any other collection of equines.

Whatever opinion may be held as to the cause of capped elbow amongst privately owned animals, there is no doubt that the trouble in the service is due to insufficient bedding. The present system by which a regiment forages its horses takes the form of a "running account." The different varieties of forage have their separate values definitely allotted to them, and commanding officers draw those amounts of each which seem best suited to the work and condition of their animals at the moment. There naturally arises a tendency to economise in the matter of bedding in order to utilise the money in the purchase of foodstuffs, of which the utility is more immediately apparent. Added to this is the fact that in the South African command, whence the present observations on capped elbow have been drawn, the bedding consists of aromatic veldt grass which is greedily eaten by the majority of horses. Hence it is that at early morning stables one finds many horses with practically a bare floor. Yet another factor in the production of capped elbow in the service is the fondness of the soldier for placing the bedding far back in the stall. The reason given is that, when so placed, it cannot be eaten by the horses, and this would pass could it at the same time be made apparent why the hind quarters alone are considered worthy of protection from the hard floor. In the examination room one would of course promptly deal with the problem by saying that the soiled bedding from the previous night should be placed forward in the stall, and any fresh supplies behind, but unfortunately one has seldom in this rugged world the pleasure of dealing with such an enlightened intelligence as that of an examiner in hygiene.

The fact remains that "contusion capped elbow" figures largely as a cause of non-effectiveness in the veterinary officer's monthly returns. Shoeing as a possible cause has been eliminated by observing that horses shod with tips are equally liable to elbow bruising. It is almost superfluous to remark that "capped elbow" is due to injury to, and consequent inflammation of, the subcutaneous bursa at the point of the elbow.

The following notes on treatment have been taken from a series of twenty cases dealt with during the past six months at this station. The cases presented every degree of the disease from a simple enlargement of a subacute nature to an enormous swelling from which inflammation and oedema radiated to the knee and involved the axilla and the breast.

These latter had become infected from abrasions of the elbow. The routine treatment in each case was essentially the same, only slight variations being made where specially indicated.

Some cases were cast, the others operated upon standing. The hair was clipped over the whole extent of the swelling and the surface painted with Tinct. iodi. A solution of Novocain was injected at several points around the base of the tumour and sufficient time allowed for anaesthesia to be complete. A Syme's abscess knife guarded by the fingers from entering too deeply was inserted at the North pole, so to speak, and a single powerful vertical incision drawn right through to the South pole. The fluid contents thus liberated varied from blood stained serum to thick pus, according to the nature of the lesion; but it is worthy of note that even in the case of the most solid-seeming enlargement the fluid was considerable. The flaps were then held apart by an assistant, and all loose shreds, necrotic material, etc., dissected away. The cavity was washed out thoroughly, dried as far as possible, and a pledget of towsoaked in pure Tinct. iodi. inserted, over which the flaps were drawn together by a few loose stitches. Bleeding, which was in no case serious, was ignored except so far as to remove traces of it, after cessation, from below the wound, and to smear the limb with vaseline for protection from subsequent discharges. In 24 hours the stitches and pledget were removed and the cold hose pipe turned on to the cavity for half an hour. A fresh coat of Tinct. iodi. and a plug of tow completed the dressing. The cases were kept throughout the treatment on pillar chains.

The cold hosing and subsequent dressing with Tinct. of iodi. were carried out twice daily for a week, after which some cheaper dressing was substituted for the iodine, the cold hose being continued.

In every case the animals were discharged to duty within the month, healing being practically complete, and little or no trace of the previous enlargement being visible.

There is of course nothing new about this treatment, but in view of the many different ideas that obtain as to dealing with these cases and the frequent temerity as to use of the knife, it would seem possible that a record of this kind, adducing indisputable evidence of the safety and effectual nature of radical operation, might be useful.

The only instance of capped elbow coming under my notice lately which could not be traced to bruising from the stable floor is worthy of mention.

The animal is a small well-bred polo pony, the property of an officer in the 6th Dragoon Guards. Although kept in a well bedded loose-box and most carefully shod it was constantly troubled with a capped elbow complicated by abrasions. The cause, at first obscure, was eventually indisputably traced to the toe of the rider's boot and the stirrup iron, which frequently struck the pony's elbow during the game, renewing the abrasions and repeating the bruising. A broad felt pad attached to the stirrup iron stopped further injury.

WAKEFIELD RAINEY, Capt. A.V.C.
Bloemfontein, S.A.

A LIVING FREAK.

Freaks of nature are not at all uncommon, but it is seldom these freaks live, or are allowed to live, any length of time.

The photograph which I am enclosing is that of a cross-bred, three-year-old Africander heifer, with six legs, the extra pair of legs being attached by fibrous tissue to the lower third of the neck.

These extra pair, which by the way are fore legs, are well formed up to the carpus, but the olecranon process of the ulna in each leg, is greatly enlarged.

The humeri are fairly well formed, but are joined together by tissue. Both scapulæ are malformed and are attached by tissue to the cervical vertebrae in the lower third of the neck.

The heifer, I may add, is in good health, was bred in the Alexandria district, and is to be kept for breeding purposes, although as yet she has not had a calf.

J. NICOL, M.R.C.V.S., Govt. V.S.
Grahamstown, C.C.

AN UNUSUAL FŒTAL PRESENTATION.

We were called to attend a mare who was in difficulty with her foaling. On our arrival we found the mare had foaled unaided, but with the following strange presentation. Head protruding through the anus, and the forelegs through the vulva, and with this presentation she had delivered the foal (dead).

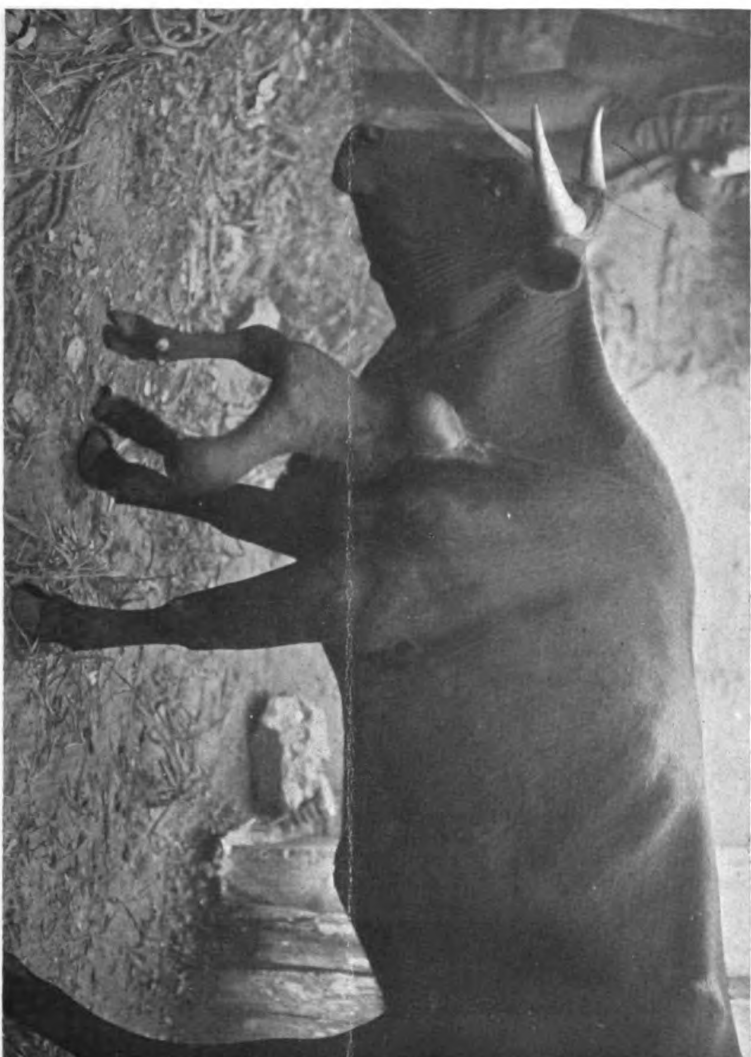
Examination of the parts revealed a rupture of the posterior portion of the rectum extending for about six inches, rupture of the anus and spinetters, together with complete obliteration of the septa between the rectum and anus and the vagina and vulva, with severe laceration of the vaginal walls and adjacent structures. Fæces were already present in the uterus, the visible portions of which were intensely inflamed.

The case being considered hopeless the mare was slaughtered, and the accompanying photo was taken.

Later on in the season we were called to another mare during her foaling, and on arrival found an exactly similar presentation.

In this case the foal was alive and little difficulty was found in returning the head through the ruptured membranes, and bringing it forward in its normal position; the foal was then "drawn" without any further trouble. Manual exploration revealed a rupture through the septum about nine inches long. The mare was walked to the infirmary (3 miles), the foal being conveyed in a cart. On arrival the anus was cleansed, the womb irrigated, and the ruptured portion drawn together with a continuous suture, a physic ball also being administered. After treatment consisted of cleansing the rectum and vagina twice daily with a weak solution of chinosol and giving a sloppy diet. In six days the suture was removed, the opening being completely closed, and the mare turned out.

"ERIN."



SUPERNUMERARY FORE LEGS,

Note by J. Nicol, Govt. V.S., Grahamstown, Cape Colony (p. 85).



MAL-PRESENTATION WITH RUPTURE OF
RECTUM AND VAGINA.

ABSTRACTS FROM FOREIGN JOURNALS.

THE TREATMENT OF PYOMETRITIS IN THE COW.

Messerle (*Schweizer Archiv.*) discusses this condition. The most common causes of bovine pyometritis (apart from uterine tuberculosis) are acute metritis after parturition or abortion, retention of the placenta, and death of the fetus six to twelve weeks after conception. In the latter case the fetus may be expelled, surrounded by its envelopes, or may remain in the womb and there undergo maceration. In the latter event symptoms of acute metritis are rarely observed.

The first manifestations of pyo-metritis are often but slightly apparent; and the affection may exist for rather a considerable time before attention is drawn to it. Very often the affected animals are thought to be pregnant, and valuable time is thus lost.

The affected cows do not come into season, and they present a purulent vaginal discharge of variable consistence. Sometimes this is constant, sometimes it is only observed at intervals. Direct exploration reveals that the neck of the uterus is sensibly more dilated than in a normal uterus. Rectal exploration shows that the uterus is more or less augmented in volume, and that the uterine horns are asymmetrical and contain liquid in which it is impossible to discover a body of firm consistence. The uterine walls are more tense than in a pregnant uterus, and the augmentation of volume especially involves the body of the uterus in pyometritis, whereas in pregnancy it especially involves one or both horns.

Spontaneous recovery may occur in pyo-metritis, and turning the cows out to grass appears to favour it. The author, however, employs the following treatment.

After having thoroughly disinfected the lips of the vulva, he passes the first finger of his right hand into the neck of the uterus; and then, by means of corkscrew movements, he successively introduces the middle finger and third finger. As soon as the uterine neck is thus dilated, the practitioner passes a tube of caoutchouc of from $\frac{1}{2}$ inch to 3-5th inch in diameter into the uterus. This tube should be soft and elastic; tubes of hard material, being able to injure the uterine mucous membrane, should be rigorously excluded from use.

As soon as the tube arrives in the uterus it often permits the escape of a purulent discharge, which is sometimes very abundant, and may amount to ten or twelve litres (approximately $17\frac{1}{2}$ to 21 pints). As soon as this purulent discharge is arrested, the practitioner injects ten litres ($17\frac{1}{2}$ pints) of a 0.5 per cent. solution of silver nitrate, which he allows to remain in the uterus for a few minutes, and then permits to flow away. Immediately afterwards he passes the tube as far as possible into the uterus, and maintains it in that position by holding it with his left hand at the vulva. He then introduces his right hand into the rectum, and energetically massages first the uterine horns and afterwards

the body of the uterus, proceeding always from before backwards. During this procedure he slowly withdraws the tube, and is thus enabled to completely empty the uterus, which could not be done by a simple irrigation.

It is important to note that under the influence of this manipulation the uterus undergoes considerable contraction, especially when it contains a large quantity of secretion. It is not rare to see the volume of the organ diminish in the proportion of two-thirds.

After the massage, the author examines the ovaries and treats them if necessary; and finally, he gives the animals an infusion of savin for a period of two days.

In the year 1907 the author treated 26 cows in this manner, and obtained 24 recoveries after a single application of the treatment. He considers animals which do not recover after a single application of treatment as incurable. He considers an animal cured if she comes into season again, which event generally occurs from 8 to 14 days after treatment.

He recommends that the animal should not be covered at the first coming into season.

As regards the question of whether cows which have undergone this treatment are likely to conceive again, the author thinks that the chances are more favourable when the disease has not been of long standing. The prognosis is favourable in this direction, if the duration of the affection has not exceeded nine months.—(*Annales de Méd. Vét.*)

W. R. C.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN DUBLIN.

At the meeting of the Board of Examiners held in Dublin on July 14th, 20th, 21st, 22nd, and 24th, the following gentlemen passed their Final Examination and were admitted Members of the Royal College of Veterinary Surgeons:

Mr. P. J. MacCormack	Mr. T. M. Doyle
M. Cunningham	P. D. English
M. J. Reidy	T. F. O'Brien
J. M. Crowe	T. Le B. Revington
P. F. Dolan	J. Smith
H. W. Carbury	N. D. Vakil

The following passed their Third Examination:—

Mr. M. Brett	Mr. T. McD. Kelly *
M. P. Glynn *	T. O'Leary
J. J. Cosgrove *	J. Quinlan *
H. E. Irwin	F. B. Sneyd
J. R. Jackson	R. C. Wheeler

The following passed their Second Examination:

Mr. A. E. Brandon	Mr. J. P. McNally *
E. S. M. Morgan	J. J. Mills
T. G. Browne *	J. J. Pomeroy
T. D. Condell	A. D. Preston
J. R. Ellison	T. Reddin
D. C. Green *	C. M. Stewart
M. P. Hatch	M. Toomey
J. J. Hegarty	

The following passed their First Examination :

Mr. I. C. Blake	Mr. H. Jewell †
J. O'Carroll	M. J. Killelea
W. A. I. Buchanan	W. E. Little
T. A. Connolly	P. J. Mulcair
F. Daly	O. D. Neary *
G. J. Delaney	T. F. O'Connor
H. Dolan	W. P. Power *
R. Hans	M. J. Ryan
C. P. Fisher *	G. K. Shaw
P. J. Hayes	

Marked thus * passed with Second Class Honours.

" " † " " First " "

SOUTHERN COUNTIES VETERINARY SOCIETY

A meeting was held at the George Hotel, Portsmouth, on Thursday, July 13th, when the President, Mr. Wm. Hunting, F.R.C.V.S., took the chair, and the others who signed the attendance book were : Messrs. A. H. Archer, C. W. W. Brown, Southsea ; W. A. DellaGana, Southampton ; G. H. Livesey, Hove ; A. Maynard, Bournemouth ; C. Pack, Lymington ; R. Roberts, Tunbridge Wells ; W. K. Stuart, Hove ; H. Smith, J. Alex. Todd, Worthing ; J. G. Tait, Christchurch, together with Capt. Duncan Macdonald, A.V.C.

On the proposition of Mr. Livesey, seconded by Mr. Roberts, the minutes of the last meeting as published in *The Veterinary Record* were taken as read and confirmed.

The HON. SEC. reported the receipt of letters or telegrams expressing regret at inability to attend from Professors Hobday and Wooldridge ; Messrs. J. T. Angwin, E. Whitley Baker, W. Burt, junr., G. W. Bloxsome, W. Coveney, Chas. J. Callow, J. B. Dier, J. T. Firr, C. W. Howard, H. H. Jeffries, J. C. Munby, J. B. Martin, C. Roberts, C. H. Spurgeon, S. H. Slocock, R. A. Thrale, F. T. Walder, A. C. Wild, D. Wyllie, A. Whicher, and R. F. Wall.

The HON. SEC. also read a letter from Mr. Percy Simpson, of Maidenhead, tendering the resignation of his father as a member of the Society.

Mr. ROBERTS remarked that he was sure they would all deeply regret the resignation of such an old and valued member as Mr. Simpson, senr., but they could not do other than accept it. They were all sensible of the great grief into which the family had been plunged, and they could only sympathise with them in their trouble, and accept the resignation of Mr. Simpson with regret. He proposed that this be done.

Mr. DELLA GANA seconded, and this was at once agreed to.

Mr. J. G. TAIT, of Christchurch, who had been formally proposed and seconded at the last meeting by Mr. E. Whitley Baker, on behalf of Prof. Hobday and Mr. Maynard respectively, was formally elected a member of the Society.

The selection of a place for the holding of the next meeting then engaged attention, and

Mr. DELLA GANA suggested that they might try and hold a meeting at Aldershot. They had not held a meeting there yet, and he thought it would make a very good centre.

Mr. ROBERTS seconded this, and it was eventually put and carried, it being understood that in the event of its being found impossible to arrange a meeting at Aldershot, the next meeting at the end of September should be held at Brighton. The Hon. Sec. was also requested to try and arrange for a visit to the Army Veterinary School, and an inspection of the X-rays apparatus.

PRESIDENTIAL ADDRESS.

WILLIAM HUNTING, F.R.C.V.S.

Gentlemen,—My first duty is to thank you for the honour you have conferred by electing me as your President for the coming year. I am just a little doubtful whether it would not have been better to have chosen a man more in the centre of your district than one from London. But I shall endeavour, with the assistance of Capt. Todd and the other officers and members of the Society, to maintain the success which has for some years marked the progress of the Southern Counties Veterinary Society.

We have a tolerably full programme to-day, and I ought not to waste your time with any presidential remarks, but I cannot refrain from just alluding to one or two matters which are interesting and important to our profession.

You know that as a Corporate Body we are in a bad financial position—expenditure exceeding income by about £400 a year. It is true we have a small capital sum that our forbears, by good management and economy, stored up for us. But this capital will only last a few years, and then we shall directly face bankruptcy. We must somehow increase our income, and our Council has endeavoured to provide a way by imposing an annual contribution from every member resident in the United Kingdom. Before they can enforce this an Act of Parliament must be obtained and a Veterinary Amendment Bill has been draughted for submission to Parliament. This Bill was at first overweighted by a number of clauses that provoked powerful opposition. It has now been cut down merely to a Bill concerned with our own domestic affairs. If it became an Act the Council would have power to collect a guinea a year from each of us. It seems strange, although true, that we cannot get this Bill unopposed through Parliament, and still stranger that the opposition comes from members of our profession. The opposition is voiced by four or five members who claim that they represent a minority respectable in numbers. The claim is based upon some replies to a circular sent out years ago which have little or no bearing on the existing Bill. Whilst I quite fail to understand the actions of the opponents, I am willing to credit them with good motives, but I remember the old adage, that "much evil is done by honest men when misdirected."

There is one good argument for the Bill—that the Council want money badly and that no better way of getting it is apparent than the Bill. It seems an exhibition of strained economy to say that a charge of 5d. a week is less bearable for a veterinary practitioner than for a coal miner.

A question is asked—What will the Council do with the money? Surely the Council, our representative body, fairly elected, one-fourth every year, may be trusted to do what is right? If they did not the profession has a ready way of correcting them. We want money to ensure our progress, to protect our interests, and to increase our efficiency as workers for the public good.

Among the things for which money is required is the suppression of quackery. I do not mean that we should run a tilt against men who sell quack medicines, but we should attack wherever we meet these men using titles with intent to deceive the public. Not many quacks now use the term "veterinary surgeon," but every year sees some ingenious person inventing a word or title which implies or suggests that the public may accept him as a qualified doctor of animals. In the present state of our funds we cannot afford to prosecute, and remember, that if a case were taken to the House of Lords it might cost the College £1000.

As to the ordinary quackery which lives on the sale of drugs of unknown composition, we as a Corporate Body can do nothing except wonder at the gullibility of stockowners. We cannot counter it by lying advertisements, nor can we force sales of our own at markets, fairs, and shows, where gratuitous whiskey and soda assists the insidious tales of cure. We must wait until stock-owners recognise that every disease is not accompanied by an antidote in the shape of something in a bottle or a packet. We must wait until the public understand that medicine and surgery can only be honestly and successfully applied when the doctor has each case under his observation.

In the meantime we must go on making ourselves efficient, and the public will in time find that their interests are safer in the hands of qualified men than in those of commercial impostors.

Our calling is very much the same as others—it contains men good, bad and indifferent, but somehow I think it has one prominent failing—a want of *esprit de corps*. The soldier is willing to die for his flag. The miner will face starvation under the guidance of his union for what he considers his rights. Doctors, parsons, and lawyers feel a collective sentiment that binds them together for the protection of their interests. But only some 10 per cent. of veterinarians exhibit any care for their Body Corporate until their own personal interests are affected or threatened.

This aspersion does not apply to those who are members of such associations as this. In every district of the country we find local associations whose sole reason for existence is the desire to help each other, to further veterinary science, and to work in unison with the Corporate Body of which we form a part. At present we are separate bodies, and somewhat isolated, but it is good to remember that the independence of each has been a feature of our development—valuable because preserving some originality and promoting some healthy rivalry.

No one who reads a newspaper can have failed to notice the success which has attended lately the strongest organisations. The Insurance Bill now before Parliament looked like inflicting injury upon medical practitioners. It will not do so simply because the united profession guided by the British Medical Association has put its case powerfully before the Chancellor of the Exchequer and before the individual members of Parliament.

It is proposed to make a further effort for closer union in our profession. It is hoped to link up in one, all the veterinary associations so that any subject affecting us may be widely and immediately taken into consideration. This affiliation scheme hopes to produce union without any interference with independence. For years something had been attempted, but only this year have all our difficulties been surmounted. I venture to hope that the meeting at Carnarvon will be able to accept the scheme, and that next year will find it a working entity.

A Certificate or Diploma granted by an acknowledged College or teaching institution is not always proof of very special attainments, but it is evidence that its holder has had special facilities for learning, and it is widely accepted as ear-marking its holder as more desirable than the man with no credentials.

The higher veterinary degree of Fellowship, has, I think, been useful to us, not because the general public appreciate it as a mark of superiority, but because it has cultivated a spirit of emulation, and attracted many young men to continue their scientific reading and study after leaving College. I think the objects and the methods of the Fellowship have hardly kept up to the standard of modern requirements, and the Council of the R.C.V.S. is also of this opinion. They referred the

matter to a Committee which, after consideration, has reported.

The alterations suggested by the Committee are that the Fellowship Diploma should be continued, but so modified that it would be granted in two divisions and by two separate examinations—one for men who desire to practise clinical medicine and surgery—one for those who desire to specialise on State and Municipal medicine. This latter division is certainly so specialised as to be worthy of a new diploma showing special knowledge in chemistry, pathology, and epidemiology, with meat inspection and hygiene.

Such a diploma would ear-mark men specially fit for appointments which are constantly increasing. It would entail a course of post-graduate study—an inestimable thing for those able to enjoy it. Such a diploma would be evidence to State and Municipal authorities that its holder was a man they could trust with the special work required of their veterinary officials.

Speaking of special work in relation to animal life I am reminded of one branch of veterinary practice that has in the past been insufficiently followed up. I mean the ravages of parasites. Quite recently I read a lecture by a Professor of Agriculture on Farm Parasites. It was a most interesting lecture, but I was struck by the little mention of what had been done by veterinarians.

It occurred to me that practitioners ought to apply the knowledge they really possess, and cultivate still more their knowledge of a subject that is certainly and rapidly being recognised as of first importance.

It would be a pity if our men permitted this division of science to be appropriated by other professional men. Veterinary practitioners seem specially fitted to practically apply the discoveries made by biologists and entomologists in the world of parasites.

All these steps to acquire increased efficiency mean more work, more teaching, and more remuneration. They mean also more money. If our centre be poor we suffer from anaemia to the circumference, and I am brought back to the question with which I started. Let us get money for our Body Corporate, and every individual will reap a benefit. (Applause).

Mr. ROBERTS suggested that they could not do other than pass a very hearty vote of thanks to their President for the excellent address he had just given them, and which had contained such a fine review of the present position of the profession. It was a paper they could not discuss—they never did discuss the Presidential address—but at the same time they could not help appreciating it. Their President evidently realised the dangers with which their profession was beset, and also the good and benefit which might come to it if proper measures were taken for its advancement. Personally he was particularly pleased to hear Mr. Hunting's remarks respecting what he might call the politics of the profession, and he thought he had rendered them yeoman service in bringing the position before them in such a clear and lucid manner. He had very great pleasure in proposing that their best thanks be given Mr. Hunting for his Presidential address.

Mr. W. K. STUART had much pleasure in seconding this, and he hoped they would all read, mark, learn, and inwardly digest the address to which they had just listened.

The proposition was then put and carried by acclamation.

The PRESIDENT, in briefly acknowledging the compliment, said he had felt it was taking rather an unfair advantage of them to deal with the questions he had when he knew they would not be able to discuss them, but at the same time he felt it might be worth his while to express his own opinions even though he could not be controverted on the spot.

The discussion on the paper contributed by Mr. Bloxsome to the last meeting of the Society on "Some debatable points of unsoundness in horses" came next on the agenda, but in the unavoidable absence of Mr. Bloxsome,

Mr. SMITH proposed that they should postpone this discussion until the next meeting, when Mr. Bloxsome might be in a position to attend and defend his paper. Mr. Roberts seconded this, and the proposition having been agreed to

Mr. DELLA GANA offered to open the discussion on that occasion.

MILK FEVER.

By A. H. ARCHER, M.R.C.V.S., Southsea.

I make no apology for bringing this subject before this meeting, because, although the symptoms and general conditions attending it are so well known, and an efficient remedy is generally employed, yet no definite cause for the development of this disease is recognised by the veterinary profession. I regard it as somewhat humiliating, from a professional point of view, to be compelled to confess when asked the question as to the cause of milk fever (which very frequently happens to those who practise much among milch cows) that we are ignorant on this point, and I fully believe such an admission tends, in no small measure, to lower the status of the individual, and through him the veterinary profession as a whole, in the estimation of that particular querist and consequently of the public generally.

The object, then, in introducing this subject for discussion is that, if possible, a common agreement may be arrived at, as to what are the conditions or exciting causes that produce the affection known as milk fever. I sincerely trust that the matter will be thoroughly thrashed out by men who have had clinical experience of this disease, and that to these will be added the scientific theories regarding it.

I now proceed to state my own views as to the causes by which a typical case of that most common form, parturient apoplexy of the cow, is produced.

Parturient apoplexy is intimately associated with milk production, and especially that constituent of milk known as butter fat or cream, so that this natural, physiological function must be to a considerable extent instrumental in bringing about the disease, and I believe that a toxin developed during this process is one of the most important features in the causation of milk fever.

Secondly, certain breeds of cows are more frequently the subjects of parturient apoplexy than others, and certain strains of certain breeds suffer in this way to a greater extent than other strains, even of the same breeds, but it is in the deep cream-producing strains that the disease is specially liable to appear.

Thirdly, cattle of a certain age are much more likely to be attacked than others. Thus a young cow or heifer with the first calf seldom or never suffers in this way, with the second calf it is not common, although it does occasionally occur, but when it does so it is usually in an animal that has either attained a considerable age before becoming pregnant with the first calf or an unusual length of time has elapsed between the first and second calving; while the third and fourth calvings afford the most numerous cases of parturient apoplexy. Consequently one is led to infer that age, or rather maturity, has something to do with the production of the disease.

Fourthly, it is undoubtedly a fact that this disease is more prevalent in some districts, and on some soils, than others, quite independent of the breeds of cows kept on these soils or of the general management of the animals. I wish particularly to call attention to this, because it is a rather common practice to attribute the prevalence

or absence of parturient apoplexy in a herd solely to the way in which they are usually kept, or to some special manner of treating them during their breeding life, no consideration being given to the effect the food grown on the soil on which they live may have in producing the disease.

Of course I do not wish to imply that no care should be bestowed on the way animals, and especially where the disease is prevalent, should be treated during pregnancy or at the time of parturition, for undoubtedly neglect under such circumstances is often an important factor in developing the disease, but what I think is very important to note is that the disease does sometimes occur when every precaution has been taken, while in numerous instances where there appears to be gross carelessness, in the treatment of even animals apparently likely to become victims of this affection, no trouble in this respect happens. General or special treatment does not ward off the disease but only diminishes the likelihood of it developing.

Hereditary tendency is a matter which is disputed by some persons and ignored by others, but in my opinion it plays quite an important part in the production of parturient apoplexy.

The anatomical conditions, which are in existence in cows, in some degree so to explain the symptoms present in most cases. I refer to the conglomeration of small bloodvessels, known as the *rete nobile*, in the brain of cattle, also to the size of the rumen, and to the general distribution of the blood vessels in connection with the genital organs, and the mammary gland. These anatomical details are well known to all of you, but I merely ask you to bear them in mind when considering the causation of the disease.

The physiological conditions existent in connection with milk production and parturition, must, it seems to me, be regarded as the main feature in the causation of parturient apoplexy, and I propose dealing with these in detail and at some length. It is generally acknowledged that the capacity for milk production, or more strictly speaking cream production, in an average cow, attains its height with the third or fourth time of calving—usually the former.

The "fatty degeneration," to use a common phrase, although I do not think it is technically correct to style what is a natural healthy physiological process a "degeneration," which takes place in the process of milk formation, is not the only change of this description that occurs about the period of parturition, for it must be remembered that during pregnancy muscular tissue is developed in the uterine walls to assist in the expulsion of the fetus, and these muscular fibres are removed by a degenerative process which begins to take place almost immediately after the act of parturition is accomplished.

It is also almost certain that in animals in which "fatty deposit," that is the accumulation of fat in the tissues, has taken place during pregnancy, a certain amount of this deposited fat undergoes a degenerative change, thus there are three separate sources at which fatty change is especially in evidence about the time of parturition, and this "change" is at its greatest activity in an animal that has attained maturity, has received food during the latter stages of pregnancy which has a tendency to develop fat, or fat forming tissue, and also possesses a constitutional predisposition peculiarly liable to the "fatty degenerative" process.

The existence of disease in certain other organs, notably perhaps the liver and spleen, may also be an important factor in aggravating the degenerative process as well as rendering the system less able to withstand the effects produced by toxins, particularly those having a depressing influence, hence the probable reason why a very considerable number of fatal cases of par-

turient apoplexy are found on careful post-mortem examination to be affected by more or less chronic disease of one or more internal organs.

Any influences, therefore, which have the effect of suddenly causing excessive "fatty change" about the time of parturition within several weeks after calving has taken place, may bring on an attack of parturient apoplexy. I have known quite a number of what in every particular appear to be genuine cases of this disease, affecting cows at a time as long as four, five, or six weeks after giving birth to a calf.

Another important incident which occurs at the time of parturition, and which I fancy, although well known, is frequently lost sight of, is the sudden diversion of the blood stream from the uterus where it has been the source of nourishment to the fetus, to the other parts of the system of the cow, consequently there is a temporarily engorged condition of the circulatory vessels when these are in a more or less atonic condition from partial disuse, and thus less able to deal with the bulk of blood suddenly driven into them. A state of congestion is set up, especially in the small vessels, such as those of the brain, with resultant ill effects on the animal economy. This inertia or partial temporary paralysis of the blood vessels being materially increased by the presence in the blood itself of any toxin of a depressing character, and this is what I believe actually takes place in the production of a case of parturient apoplexy, the toxin being absorbed from the centres when degenerative change has been going on.

That toxins are developed or liberated during the process of "tissue change" is, I believe, undisputed, and the fact that in pure cases of parturient apoplexy these toxins become absorbed by the blood vessels and so exert their baneful influence on organs remote from the place where they are generated accounts for the early development and prominent feature of brain and spinal trouble in this disease.

The chemical phenomena in the causation of parturient apoplexy attains importance in that the toxin developed in tissue change possesses in these cases a depressant action on the nervous system generally, and is very marked in the "sympathetic" system, hence the causation of milk secretion in the early stage of the disease; and it is the consideration of this depressed condition of the nervous system, and through it of the circulatory system, that accounts for the rapid recovery from quite an acute attack, so that an animal which is in a comatose condition is often to all appearances well on the high road to complete recovery within from thirty minutes to four hours. This fact is a strong argument against some of the theories advanced as to the actual cause of this disease, such as the absorption of septic matter etc., because in those diseases recovery is always more or less protracted and restoration to health is dependant upon the elimination of the offending material from the system, or the neutralisation of the deleterious matter associated with it, which requires considerable time.

The influences of the dietetic and general management on the production of parturient apoplexy have already been alluded to, and little need be added except to impress it upon the mind that certain soils are certainly favourable to the production of food stuffs which if fed to cows result in a large amount of fatty tissue change, and that land on which a beast will fatten is not necessarily, although it may be, noted for its power of producing cream. Also any course of management, dietetic or other, which tends to lower the "tone" of a pregnant cow near the time of parturition, renders her a more susceptible subject for an attack of milk fever; therefore regular exercise is one simple agent which helps to ward off an attack.

These theories also explain why animals recover suddenly, and why the principles of the present curative

treatment are, when carefully carried out, so eminently successful.

The fact of this disease being an "apoplexy" and not a "fever" sufficiently explains why there is no rise of temperature in an *uncomplicated* case of parturient apoplexy.

It now remains to compare parturient apoplexy as met with in the cow to parturient diseases of a more or less similar character as they appear in other animals—the mare, sheep, sow and bitch and human female, and I at once proceed to say that in my opinion in none of those does the disease, appropriately designated "parturient apoplexy," at any rate in an uncomplicated state, occur in females other than the cows. I freely admit both that cases do occur in the cow, that while partaking in some respects of the character of parturient apoplexy, yet are not typical of this disease, and also that numerous cases are met with in other females about the time of parturition which simulate, in some particulars, a case of true parturient apoplexy.

The former of these are cases in which intense nervous excitement, as shown by champing the jaws, plunging about, wildly glaring eyes, etc., and in a milder degree frequent twitching and shaking of one or both hind limbs, but these symptoms I attribute to either some special condition of the great nerve trunks and nerve centres themselves, or their adjacent tissues, or to the presence in the blood stream of another poisonous element.

Those instances in females other than cows which in many or some respects present symptoms similar to those met with in typical parturient apoplexy, according to my belief, are cases in which there is present a certain amount of a toxin caused by fatty change or some kind of degeneration of a like character, yet the real or chief cause of the trouble is a form of septic poisoning, set up by the absorption, from the genital organs, of putrefactive organisms, which causes an elevation of temperature, thus giving rise to the old and common name milk fever.

Before concluding, I wish to direct attention to one sequel to parturient apoplexy which occasionally makes its appearance just when the crisis of an ordinary case has passed, I allude to that condition so well known to those of us who have had extensive experience in the treatment of milk fever, which results in more or less atrophy of the muscles of one or both hind limbs, and by rendering the patient incapable of rising, or preventing the full use of the limbs, make it advisable to destroy the animal as useless.

What the precise character of this secondary trouble is I have not so far been able to determine, and I trust the discussion on this paper will tend to some enlightenment on this subject. At present I am inclined to regard it as neuro-phlebitis, if I may coin such a word, caused by injury to the large nerve trunks, and through them impairing the circulation in the blood vessels of the hind quarters. The first appearance of this condition is a painful swelling in one limb, causing the patient to become restless, with accelerated breathing and impaired appetite. These symptoms usually increase in intensity until the animal, if allowed to live sufficiently long, becomes reduced almost to a skeleton when both limbs are affected; or if only one, she may be able to rise, but rarely acquires the proper use of the affected limb, so that it not infrequently happens that the development of this secondary trouble leads to a most disappointing termination to a case. Indeed, it is nearly always best for the owner and most merciful to the suffering animal to destroy her when well pronounced symptoms of this sort appear.

I hope that this paper will provoke a good discussion, and that some definite decision *re* the cause of milk fever may be arrived at.

DISCUSSION.

The PRESIDENT remarked that they had listened to an extremely suggestive paper. Perhaps the deepest impression the paper had made on himself was that he had really no business to be in the chair that afternoon, because milk fever was a disease which he knew nothing or very little about, and it only showed the futility of having a town man to preside over a discussion by country practitioners of a subject like this. This was a subject in which a theoretical knowledge of medicine did not help one very much, but even the most ignorant of them knew that whereas milk fever used to be a disease in which the great majority of cases had a fatal termination, five per cent. of deaths was now about as much as any one might expect. When he was a young man nearly all these cases died, but then they knew nothing of this injection of the udder. This injection of the udder and its speedy action certainly seemed to suggest that the primary mischief must be in the udder, but whether that was so or not they must admit that one of the most remarkable discoveries of recent years was made by Schmidt when he tried this theory of injection.

Mr. ROBERTS wished to thank Mr. Archer for the very excellent paper he had given them. He thought it showed that their friend had had a very great deal of practical knowledge of the subject, and that he must must studied it very closely to have arrived at the conclusions he had. This complaint had been theorised on for a great many years, and as far as the pathology of it went he did not know that they had advanced very much. Some twenty-five years ago, when he was down in Westmoreland, he had an opportunity of making quite a large number of post-mortem examinations and the most prominent feature he noticed was the condition of the brain and its membranes. Quite a large quantity of serum invariably escaped when the membranes were severed, and this he used to think was the cause of the brain pressure. At the same time he must confess he never saw any symptoms of true apoplexy, such as rupture of the blood vessels themselves. Another point he had noticed was the temperature. Mr. Archer had told them he had never seen a case of milk fever in which the temperature was not always sub-normal, and he thought that was what they generally saw; whenever there was any pressure on the brain down went the temperature. And the first symptom they began to note in the case of recovery was the temperature beginning to rise again. He also agreed with Mr. Archer that it was the rich milkers that were the most liable to get milk fever. With regard to the fatty degeneration and other changes that were said to take place in the tissues, he had for some time now discarded that idea, and the thing that made him do so was the tremendously rapid recovery that took place after the udder was inflated with oxygen gas. Of all the wonderful things he knew of with regard to the veterinary treatment of diseases in animals, there was nothing he thought so absolutely wonderful in its effect as this new treatment for milk fever. It was perfectly marvellous to see the changes which took place in the patients, even in so short a space as two or three hours.

Mr. PACK remarked that according to their agenda they were to discuss the treatment of milk fever and its relation to other parturition diseases. What they wanted to find out was what milk fever really was. He thought there was no doubt it was a toxin which commenced somewhere about the hind quarters, gradually pervading the whole system, but he did not think the brain itself suffered so much. He could not think that this pressure on the brain had so much to do with milk fever. For one thing the rapid recoveries that took place did not seem to suggest that the brain was so

affected by congestion as they used to think, and they must also remember that twenty-five years ago milk fever was invariably treated by copious bleeding, with the result that there was more likely to be anæmia than congestion. He quite agreed that the disease was not nearly so severe now as it was twenty-five years ago, and the time the disease took to develop now was far longer than it used to be. What the cause of this was he could not say, but perhaps the explanation was that the disease had been handed down from progeny to progeny until the animals had acquired a certain tolerance to the complaint. He quite agreed with what had been said as to there being a good deal of luck in the treatment.

Mr. H. SMITH desired to thank Mr. Archer for his interesting paper. He agreed with Mr. Pack about the disease having apparently to some extent worn off. It did not seem anything like so severe now as it was twenty-five years ago. They often heard of diseases wearing themselves out in the course of time, and he was inclined to think that possibly milk fever was one of them, although the treatment adopted of injecting into the udder was a very wonderful one. Lately, whenever he had been asked for a preventative of the disease he had advised keeping the udder full until the animals were well past the three days, and in nearly every dairy in which this had been tried they had no milk fever.

Mr. LIVESY remarked that this was a subject he knew very little about, but he could support Mr. Smith in one thing, and that was the desirability of keeping the udder full. Some time ago when he was down in Worcestershire an old farmer told him he had never had a case of milk fever, for the reason that he took good care the udders were never interfered with for three days after calving. His (the farmer's) experience had been that if the udders were kept tense there was practically no milk fever, and that experience was borne out by Schmidt's treatment. He had hoped Mr. Archer would have mentioned some of the other parturition diseases, and discussed the relations between milk fever and some of these, and particularly would he have liked to have heard something about eclampsia; also if the disease was due to toxins, why should the result of the toxin be seen early in the case of milk fever, and why it should be seen late in eclampsia. At the same time he must congratulate Mr. Archer on having given them a most interesting paper.

Mr. MAYNARD confessed that he did not know very much about this milk fever treatment at present, although he had seen a good deal of it down in Cornwall. His own idea was that by injecting into the udder they possibly stopped the formation of these fat cells at the time of parturition, and they consequently did not get them carried into the circulatory system. He might also mention that he had at times been obliged to use only an ordinary bicycle pump for injecting, although he always liked to use a proper oxygen pump.

Mr. ROBERTS said it appeared to him that the food very often had a good deal to do with it, because when the land was in a very poor state they did not have much milk fever, but directly they got the land into a rich state, and the animals began to thrive and give plenty of good rich milk, they had the fever.

Mr. TAIT, who was invited to contribute to the discussion, remarked that he had been greatly interested in the paper although he did not know that he could contribute much to the discussion. In Scotland, before this treatment by injecting into the udder came into vogue, their method of treatment was principally by stimulants, and he thought they had about fifty per cent. of recoveries. But he agreed with what one or two of the previous speakers had said, that there was very often a good deal of luck. Occasionally they would have a good

many recoveries, and then they would have a spell of fatalities.

Mr. DELLA GANA remarked that with regard to the cause of this disease he thought the experience pointed to a toxin, due most likely to some ultra microscopical organism, and it was very likely that the fat cells which had been referred to conveyed these organisms into the system. He also thought the therapeutical value of the new air treatment was due to the fact that these organisms perished in the oxygen.

Mr. A. H. ARCHER, in reply, said he hoped this would not be the last they would hear of this subject, because, as he had stated in his paper, he should very much like to get a definite decision as to what was the cause of the disease, especially in the interests of the younger members of the profession, who would then be in a better position to satisfy the owners of any animals they might be called in to treat. With regard to what had been said about keeping the udder tense, he was born on a farm which used to calve a great many dairy cows and they never had more than about three cases of parturient apoplexy in thirty years, despite the fact that they did nothing to prevent it, and they always used to milk them out after the calving. On the other hand, a brother-in-law of his who was only seven miles away, and who had the same breed of cows tried everything he could to prevent it, but used to have any number of cases. In his opinion the udder distension had nothing to do with the cause. He preferred to attribute it to the atonic condition of the circulatory system. With regard to Mr. Livesey's remarks respecting other parturient diseases, the reason he had not gone into that was that he was afraid it would make the paper too long, and further there was no other parturient disease that he was aware of absolutely identical with it. Eclampsia was in his opinion due to poorness of blood, and was absolutely different from parturient apoplexy, though there was a similarity between certain of the symptoms. Then as to this infiltration of the udder, he believed when Schmidt first started his injections he did not inflate the udder, but introduced iodide of potassium with a view probably of killing the microbes which he assumed to be present in the udder. Some time before this treatment was made public he himself had come to the conclusion that it was a form of poisoning similar to that of carbonic acid gas, because they always got the blood very dark in colour, but it never occurred to him to inject it into the udder, and he started with peroxide of hydrogen as being very safe. He thanked them for the attention and interest which they had given to his paper, and if it had the effect of leading to a further ventilation of the subject he would be only too pleased.

One or two specimens of interest were exhibited and commented upon.

Mr. LIVESEY proposed the customary compliment to the President for presiding, and this was seconded by Mr. Roberts, and carried by acclamation.

The PRESIDENT briefly acknowledged the compliment, but suggested that their thanks ought really to have been accorded to Mr. Archer for giving them such an interesting paper.

Mr. LIVESEY: I thought we had all thanked Mr. Archer when we discussed his paper, but if not we can readily rectify that omission.

Mr. ROBERTS: Certainly, with your permission, Mr. President, I will propose that we accord Mr. Archer a very hearty vote of thanks for his excellent paper. Mr. Smith seconded this, and the proposition having been carried, the proceedings terminated.

J. ALEX. TODD, *Hon. Sec.*

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

A general meeting was held at the Gresham Hotel, on Friday, May 26th. The President (Prof. A. E. Mettam) occupied the chair, and there were also present Messrs. J. A. Jordan, W. Chambers, Prof. J. F. Craig (Hon. Treasurer), P. J. Howard, L. M. Magee, Lieut.-Col. Charles Steel, James McKenny, W. H. Wilkinson, J. Doyle, Prof. J. O'Connor, and A. Watson (Hon. Sec.).

The minutes of the last meeting as printed and circulated were adopted, on the motion of Mr. W. Chambers, seconded by Lieut.-Col. Steel.

Apologies for inability to attend were received from Messrs. J. J. Vahey, J. A. Thompson, Finlay Kerr, A. C. Duncan, P. D. Reavy, J. E. Johnston, A. F. Walshe, F. A. Heney, and M. Hedley.

REPORT OF COUNCIL.

A meeting of the Council was held on April 3rd. The President occupied the chair, and there were also present Messrs. James McKenny, J. B. Dunlop, W. H. Wilkinson, Prof. Craig, Prof. O'Connor, and A. Watson.

The meeting ordered that a letter of condolence with the family of the late Mr. T. D. Lambert be sent to Mrs. Lambert in the name of the Association.

The Secretary mentioned that Mr. Cargill Patrick had met with an accident in the hunting field, and was directed to write a letter of sympathy and hope for his speedy recovery.

A letter was read from Mr. Cargill Patrick choosing to act as Vice-President of the Association, he having been elected also a member of the Council, and Mr. Heney was unanimously co-opted to the position on the Council rendered vacant by Mr. Patrick's selection.

A letter was read from Mr. John Holland acknowledging a vote of thanks passed at last general meeting for the manner in which he had acted as President of the Association.

A letter was read from Mr. Hannan in reply to a request to reconsider his resignation, in which there was no affirmative answer.

A discussion took place on letters from Prof. Gofton and Mr. Jordan, Belfast, relative to the proposed amalgamation of veterinary societies. It was suggested that an extraordinary meeting of the three Irish Societies be held on April 19, 1911, at 4 o'clock at the Royal Veterinary College of Ireland, and that Dr. Bradley be invited to address the meeting.

The question of the Congress of the Royal Institute of Public Health to be held in Dublin in August was before the meeting, and after full consideration it was resolved to refer the matter to the extraordinary meeting, some names being suggested to act on a Committee of Management, and as Vice-Presidents.

Mr. Emery, of Belfast, wrote regretting his inability to act as representative of the Association at the Sanitary Congress to be held in Belfast in July. The Secretary was instructed to ask Mr. Thompson, of Lurgan, to attend the Congress as representing the Association.

A letter was read from the Royal College of Veterinary Surgeons thanking the Association for sending a copy of counsel's opinion *re* Petrol Tax, etc.

The Secretary brought before the Council a public report of a case in which the Donegal Board of Guardians and District Council appointed a layman as Inspector under the Dairies, Cowsheds, and Milkshops (Ireland) Order. The Council took no action in the matter, as it was not a veterinary appointment.

A letter was read from the North of Ireland Veterinary Medical Association, relative to the desirability of a uniform system of meat inspection in Ireland. The Council appreciated the spirit of the letter, regarding the

subject as a suitable one for discussion at the coming Congresses in Belfast and Dublin, and the Secretary of the North of Ireland Veterinary Medical Association was suggested as a possible contributor of a paper on the subject.

The Secretary was requested to call on Messrs. Duncan and Carlisle with reference to the Trusteeship of the Association, and have a deed drawn up in legal form.

The matter of the Insurance of the Sire "Lad O' Wax," was before the Council and postponed to the next meeting.

Meeting of Council held on May 10th. The President occupied the chair, and there were also present: Prof. O'Connor, Prof. Craig, Messrs. Chambers, James McKenny, Lieut.-Col. Steel, W. H. Wilkinson, W. Cargill Patrick, R. H. Lambert, and A. Watson.

A letter was read from Capt. W. A. Pallin informing the Council that as he was under orders to sail for South Africa he was resigning his position on the Council. The resignation was regretfully accepted, and it was ordered that Capt. Pallin be placed on the list of corresponding members.

A letter was read from Mr. F. A. Heney thanking the Council for co-opting him on the Council, and accepting the position.

A letter was read from Mr. W. H. Lambert thanking the Association for the vote of confidence with the relatives of the late Mr. T. D. Lambert.

Mr. Cargill Patrick wrote thanking the Council for their resolution of sympathy with him in his accident.

A letter was read from Mr. Walshe, M.R.C.V.S., Carlow, requesting a copy of counsel's opinion *re* Finance Act, 1910, as a prosecution was pending.

Mr. P. J. Byrne, solicitor, Carlow, wrote stating he was acting for Mr. Walshe, and made a similar request, and also asked if the Council could see its way to defend the case. After careful consideration the Council regretfully decided that the state of their funds would not allow them to fight this case. Mr. McKenny dissenting.

A letter was read from Mr. J. A. Thompson, F.R.C.V.S., Lurgan, acceding to the request of the Council to attend the Sanitary Congress at Belfast in July as delegate from the Association.

Mr. J. A. Jordan, Belfast, wrote expressing his regret that he was unable to adopt the suggestion of the Council that he would provide a paper on "The System of Meat Inspection in Ireland."

The Royal College of Veterinary Surgeons wrote informing the Council that the copy of Counsel's opinion *re* Finance Act, 1910, had been placed before the Parliamentary Committee, and that the Chancellor of the Exchequer had intimated that he could not receive any deputation about the matter.

The Council ordered that a resolution standing in the names of Messrs. Watson and Wilkinson, having reference to the proposed amalgamation of veterinary societies, should be considered at the general meeting.

It was decided that the next general meeting of the Association be held on 26th May at the Gresham Hotel, and papers were arranged therefore.

The matter of the insurance of the sire "Lad O' Wax" was brought before the Council, and they decided that the matter was outside their jurisdiction.

Mr. P. SMALL, M.R.C.V.S., Clones, was nominated for membership of the Association.

A conjoint meeting of the members of the Central Veterinary Medical Association, the North of Ireland Veterinary Medical Association, and the Veterinary Medical Association was held at the Royal Veterinary College, Dublin, Principal Mettam occupied the chair.

The meeting was held to consider, amongst other

matters, the proposed Amalgamation of Veterinary Societies.

The CHAIRMAN explained the objects of the meeting and introduced Dr. O. Charnock Bradley, of Edinburgh.

Dr. BRADLEY gave the meeting an eloquent and lucid explanation of the details of the scheme, and was heartily applauded.

The meeting was also addressed by Messrs. James McKenny, E. C. Winter, Prof. Duncan, J. A. Thompson, J. Holland and M. Hedley.

The CHAIRMAN brought the proceedings to a conclusion by remarking that it would be as well to let the subject stand till such time as matters could be brought to an amicable and satisfactory conclusion.

Mr. McKENNY drew attention to a portion of the report in which dissent he had taken to one matter was recorded, viz., they had gone to the expense of submitting a subject to the Solicitor, and took counsel's opinion upon it, and then they afterwards said that for want of funds they could not take action. That seemed to him as though they were stultifying themselves.

The HON. SEC.: You don't question that the minutes are correct?

Mr. McKENNY: No, and I may say this, it is very difficult to make a report of Council, but I think that it is a magnificent one. However, that entry about the funds ought to be deleted.

The PRESIDENT: What is the objection to publishing the fact that we haven't any available funds. It is no disgrace, poverty.

Mr. McKENNY: But it isn't true.

The SECRETARY pointed out that Mr. McKenny would have an opportunity of discussing the subject later on, as there was another letter from Mr. Walshe asking them to go on with the case.

Mr. WILKINSON proposed that the reports be adopted.

Mr. HOWARD seconded, and the motion was carried.

PROFESSIONAL ETIQUETTE.

The meeting discussed a case of alleged breach of professional etiquette. It was stated the gentlemen in question had explained that he had acted without thought, and would take steps to withdraw the matter complained of. The Secretary was instructed to furnish the details to the Registration Committee.

PETROL TAX.

The PRESIDENT briefly explained that a letter had been received by the R.C.V.S. from Mr. Lloyd George, and the tone and the substance of the letter conveyed that he was not going to have any more bother with the veterinary profession. The Council of the Royal College were for taking it literally and accepting this letter as the final word, but on the proposition of someone it was left open, and so they were going to again approach Mr. Lloyd George. A Labour Member of Parliament was interesting himself in the matter. That was the position now.

The SECRETARY: Mr. Howard, who is a personal friend of some of the Irish members, might do something.

The PRESIDENT added that the letter was very strong and pure "Georgese." He (the Chancellor) was going to have nothing more to do with them; they were too puny a people to influence any votes, and that was the interest Mr. Lloyd George had.

MOTOR CAR PROSECUTION.

Mr. A. WALSH, Carlow, wrote as follows:—

"Dear Mr. Watson,—My case *re* motor car dwindled down to 'neglect to make a declaration.' I understand the medical rebate will come on later. I will not be able to attend meeting to-morrow night, and will ask you to ascertain the views of the Association on the

matter. It is a matter of principle, and one the Association should defend to uphold the dignity of the profession. If a secretary of a County Council can put us down as not being medical practitioners then we deserve what we get. I shall be glad to hear from you and to know the views of the Association on the matter at your earliest convenience."

The SECRETARY stated Mr. Walshe was fined £20 for neglect to make a declaration.

Mr. HOWARD said surely the fact of his being a veterinary surgeon did not excuse him from obeying the law of the land. Mr. Walshe brought himself within the law by not registering the car, and he had to toe the line.

The SECRETARY: That part of it is finished with, but he says the question of being a medical man will come on for adjudication later on. We have the fact that Mr. Freeman, of Dublin, Mr. Moffett, of Galway, and Mr. Donnelly, of Drogheda, have been accepted as medical practitioners in their separate counties. Mr. Walshe's case is on the same lines as theirs. I have informed him of that.

The PRESIDENT said it was more likely to be settled by an amicable talk between Mr. Walshe and the Secretary of the County Council than by their taking it up. It was hardly likely this secretary would take up an attitude different from other officials, as it would only be making trouble for himself. (Hear, hear.)

The SECRETARY was instructed to draw Mr. Walshe's attention to the decision in Mr. Allen's case *re* juries, and to the fact that Messrs. Freeman, Moffett, and Donnelly had been recognised as medical practitioners by the respective Councils.

AFFILIATION SCHEME.

Mr. A. WATSON rose to propose the following resolution:—

"That having heard Dr. Bradley *re* Affiliation of the Veterinary Associations of Great Britain and Ireland with the National Veterinary Association, the Veterinary Medical Association of Ireland take the necessary steps to affiliate, as we believe it is in the best interests of the profession and of all the Members of our Association."

Mr. WATSON said it was not his intention to labour the subject, as all present heard Dr. Bradley in a most eloquent fashion prove the many good things that would accrue from affiliation. In a word, the idea of this scheme was to create a body on similar lines to the British Medical Association. It undoubtedly was most desirable that some such body should exist in the veterinary profession to guide them and to protect their interests. This should especially be the case, inasmuch as affiliation did not represent a very large sum. If it meant the wealth of the nation as represented by the veterinary profession in Ireland he would agree they ought to pause, but inasmuch as under the rules which were proposed it only meant 1/- per head it was worth the experiment. They had nominally on their books a membership of something like 150, but he would ask the members to remember it was not meant they had to pay a fee of 1/- on the 150, for they must remember that under Clause 9 of their rules it said "each member shall pay in advance an annual subscription of 10/6, which shall fall due on the 1st January in each year; no member shall be entitled to exercise any of the privileges of the Association who shall be in arrear with such subscription." Accordingly it meant a fee of 1/- only for such number as had paid their 10/6 in advance. He had obtained from the Treasurer a report of the number who had paid their dues up to date, and consequently were "in benefit." For the year 1911 there were only 36 members at the time the Treasurer made up the list; there were some few added since.

In 1910 there were 79, and in 1909 there were 70. His virile antagonist—(laughter)—on this subject would hardly say that such an Association as theirs could hesitate to give 36/- a year to carry on the experiment. If they affiliated it did not necessarily mean that they must affiliate for all time. They could at the end of any year send in their resignation and their affiliation would cease. He would appeal very specially to Mr. McKenny not to be too hostile because his own pet theories and his own pet rules were not accepted by the Committee in charge of this scheme; not to be too antagonistic, but to remember that as an experiment at the cost of 36/- or £2 it was well worth trying. If at the end of one, two, or three years they came to the conclusion, as Mr. McKenny put it, that "it was all a fraud, that it was only a recruiting ground for pulling members into the National," they could send in their resignation and their liability ceased. He had pleasure in proposing the resolution. (Hear, hear.)

Mr. W. H. WILKINSON said he had pleasure in seconding. They had admitted they thought there was a necessity for some such action by submitting an alternative scheme, and he thought Dr. Bradley made a very honest attempt to meet their wishes. He had read the proposals through very carefully, and really did not find any material differences between them. He hoped this amalgamation would be brought about.

Mr. McKENNY observed that Mr. Watson had alluded to him, and he hoped in such a very important matter as that, neither Mr. Watson nor he, to please themselves, would do an injury to the profession. Dr. Bradley set forth some very magnificent benefits to be derived, but unfortunately those benefits when they came to test them, were admittedly only imaginary. They were things to be hoped for, but the reality was not there. The only benefit they had to deal with was simply that of becoming affiliated to the National, so that the National might obtain so much money, and, as he told Dr. Bradley, make the Association, recruiting grounds for the National. This Association would receive no benefit from the proposed rules. The only possible thing that Dr. Bradley held out to them was that, instead of the members having to pay 10/6 to the National, 7/6 would be the fee. They had a joint conference of the Irish Associations to hear Dr. Bradley, and after hearing him they said not one word in his favour, simply because the scheme had no benefits to offer them, and they were not going to stultify themselves for an imaginary prospect; they were not going to grasp at the shadow and let the reality go. The reality was the amalgamation of the Associations. It was not affiliation with the National, but the amalgamation that gave the union and strength to the whole profession that they were really desirous of seeing accomplished. He truly believed that amalgamation was a magnificent thing; it would realise all the benefits that Dr. Bradley set forth to them, but if they affiliated it would crush for some years that which they really wanted—amalgamation—and therefore it would be a most injurious and injudicious thing to pass that resolution.

Mr. HOWARD was sorry he had not had the pleasure of listening to the exposition of the rules and regulations by Dr. Bradley, but he remembered that he (Mr. Howard) was one of the first to suggest the idea of affiliation when the amalgamation scheme was originally launched. He suggested that the only way to work it was by a scheme of affiliation. He thought there was some mistake in the opinion given them by Mr. Watson as to what the affiliation fees would be. He thought the fees would be the fees of whatever member of their Association desired to join the National. It was not necessary that they should pay for 36 or 46 or 100 members if they were not going to become members. That was the trouble preventing an amicable solution

—the fact that they had a great many members who did not care a straw whether there was a National or not, and did not want to become members of it. He would be perfectly satisfied as a member of that Association if it was used as a recruiting ground for the National. It would do a tremendous good if every veterinary surgeon in the country would become a member. The scheme submitted up to the present, however, would not help to encourage their members to become members of the National.

Mr. WATSON disagreed with Mr. Howard as to the affiliation fee.

Mr. HOWARD declared the affiliation fee of 1/- for every subscribing member from the division meant subscribing member of the National. But they were not going to pay an affiliation fee in respect of members who did not want to join the National. Mr. McKenny and others objected to this Association being utilised as a recruiting ground. They would at least get the benefit of being able to get into the National at 7/6 instead of 10/-.

Mr. McKENNY: I do not object. I say that the whole effect of the scheme is to make us recruiting grounds, and that that is all it does.

Mr. HOWARD, continuing, said he did not think the suggested rules would meet the object desired, and he thought they might take their time in Ireland. It was of more importance to the other side of the Channel, and they had not yet found a happy solution.

The PRESIDENT: Will you propose as an amendment that the matter be deferred until we have the report of the next National meeting at Carnarvon? Then you will see what they are going to propose.

Mr. HOWARD: I was simply endeavouring to give an explanation of why I would propose that policy. I wish to formally propose that any action be deferred until we see the report of the Joint Committee to the next meeting of the National Association.

Mr. McKENNY seconded. There voted for the amendment, 8; and against, 2; and the amendment was then put as the substantive motion and carried.

The PRESIDENT: I think that is just the Premier's attitude of "wait and see."

NEW MEMBERS.

The following gentlemen were elected members of the Association:—

Lieut.-Col. J. MOORE, F.V.O., Irish Command, Island Bridge Barracks, Dublin, proposed by Prof. Mettam, seconded by Mr. James McKenny.

Mr. J. DODD, M.R.C.V.S., Swinford, Co. Mayo, by Mr. James McKenny, seconded by Prof. Craig.

Mr. F. B. HAYES, M.R.C.V.S., Royal Veterinary College, Ballsbridge, Dublin, by Mr. James McKenny, seconded by Prof. Craig.

Mr. J. J. O'BRIEN, Belmullet, by Prof. O'Connor, seconded by Prof. Craig.

Mr. P. SMALL, M.R.C.V.S., Clones, by Prof. Craig, seconded by Prof. O'Connor.

Mr. GEO. W. TYSON, D.A.T.I., by Mr. McKenny, seconded by Prof. Craig.

Mr. J. B. HARE, Navan, was nominated by Mr. L. M. Magee, seconded by Mr. J. McKenny, the ballot to take place at next meeting.

(To be continued).

At a meeting of the Tuberculosis (Animals) Committee, it was unanimously resolved "That this Committee, having considered the final report of the Royal Commission on Tuberculosis, respectfully press the Board of Agriculture to bring into operation the Tuberculosis Order of May 27th, 1910; but the compensation to be provided either out of the Development Fund or from other Imperial sources, and not from the local rates."

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

It being Coronation year, the Association had decided that their summer meeting, on Thursday, July 20, should take the form of a river trip; and the arrangements were carried out with the most perfect success, the management being entrusted to a sub-committee consisting of Messrs. E. J. Mellett, President for the year, Henley; Percy J. Simpson, Maidenhead; and Geo. P. Male, Hon. Sec. and Treas., Reading. The party assembled at Maidenhead Station shortly after 1 o'clock and were driven to Boulter's Lock, where they boarded Bond's fine launch, "Empress of India," and went up the river to Henley, which was reached in time to allow of a run up the backwater in front of Park Place, where many house boats were moored on either side. The exquisite scenery (which was new to a few of the party) was seen at its best on a perfect July day, the heat of which was tempered by the fleecy clouds and a pleasant breeze. Luncheon and tea were served on board: at the close of the former the President submitted the toast of His Majesty the King.

The business of the meeting was conducted on deck, President in the chair.

The Hon. Sec. read apologies from the following members and friends who were unable to attend: Profs. McCall and Macqueen; Messrs. Anderson, W. Wilson, Hanks, Hurndall, Owen, East, Tennant, Jagger, Todd, Hughes, Verney, Standley, Pauer, Page Bull, Shipley, King, Butters, and Major Harris.

The following gentlemen were nominated for membership:—

Mr. J. H. PARKER, M.R.C.V.S., Faringdon, proposed by Mr. P. J. Simpson, seconded by the President.

Mr. T. SEALEY GREEN, M.R.C.V.S., Tring, by Mr. T. W. Lepper, seconded by Mr. D. Wyllie.

It was agreed that the next place of meeting should be Red Lion Square.

A vote of thanks to the President for presiding concluded this part of the meeting.

The party was, for many causes, smaller than had been expected. Those present included: Members—Messrs. E. J. Mellett (president), Sidney Villar, G. P. Male (hon. secretary and treasurer), T. W. Lepper, P. J. Simpson, S. H. Slocock, J. Willett, J. Hatch, and D. Wyllie; and visitors—Mrs. Mellett, Mrs. Male, Prof. and Mrs. Wooldridge, Mrs. Villar, Mrs. T. W. Lepper, Mrs. P. J. Simpson, Mrs. Slocock, Mrs. Willett, Mrs. Wyllie, Mr. and Mrs. J. H. Parker, Miss Habgood, Mr. J. Budgen, Mr. Cobb, and Miss Fitzjohn.

G. P. MALE, Hon. Sec.

NATIONAL VETERINARY ASSOCIATION.

ANNUAL BANQUET.

The annual banquet was held at the Sportsman Hotel, Carnarvon, on Wednesday evening, July 27, under the Chairmanship of the President, Mr. Salusbury Price.

Following the usual loyal toasts, Mr. J. T. SHARE-JONES proposed "The Mayor and Corporation of Carnarvon." In doing so he said there was no question but that antiquity was a thing which appealed to every man and woman with a spark of human nature in them in a manner which could not be expressed in words. That being so he felt sure it had been a source of great delight to each and every member of the National Veterinary Association to have been privileged to hold their meeting in Carnarvon. In his opinion there was no town which possessed the glorious traditions associated with Carnarvon. The Association was extremely grate-



MEMBERS N.V.A. AT LLANBERIS.



MEMBERS N.V.A. AT BEDDEGELEERT.
THE NORTH WALES SOCIETY'S EXCURSION.

ful to the Mayor, and congratulated him and his lady upon the signal honour which had been conferred upon them by His Majesty the King.

The DEPUTY MAYOR (Mr. Nath Roberts) having responded, the toast of "The Army, Navy, and Allied Forces" was proposed by Mr. W. Woods.

Capt. PALLIN, in reply, assured the members that those who were in the Army Veterinary Corps did not forget that the improved conditions under which they now served were due to a great extent to the work done by the National Veterinary Association and others in the cause. For the past two years he had been stationed at Woolwich where he saw more of the men (subordinates) coming into the Corps than of the officers, as the men were trained at the depot there. He could only say that the Corps was popular and was attracting a very good class of man. It was a great improvement on former times for officers to have their own men to nurse and look after their cases, and he had no doubt that the benefit of the men's services would be even more evident on service than in times of peace.

Dr. PARRY, J.P., then proposed the toast of the evening—"The National Veterinary Association." In doing so he said he did not know why he should have been asked to propose the toast unless it was that he was the only medical man in the town who owned a horse! (Cheers). The importance of an Association like the National Veterinary grew year by year, and he strongly urged all veterinary surgeons to support it in order to see they obtained justice from the community. The community in the future was going to ask more of the medical and veterinary professions than it had ever done in the past, and it was of the utmost importance that the members of those professions should weld themselves together and have a clear idea as to what their rights and responsibilities to the public were. (Hear, hear.) Medical science in the past had directed itself to the treatment of disease, but latterly medical men had been patriotic enough to expect their reward in another world, and were now making efforts to prevent disease. That would be to a great extent the science of the future, not only in the medical but in the veterinary profession.

The PRESIDENT, in responding to the toast, referred to the recent report of the Royal Commission on Tuberculosis, and said that if the public would only support and use the veterinary profession, veterinary surgeons would guarantee to rid the country of tuberculous diseases amongst animals.

Dr. PARRY EDWARDS, in replying to the toast of "The Guests," proposed by Mr. Henry Taylor, said he felt convinced that unless the Medical Officers of Health and veterinary surgeons were joined hand in hand there was no possibility of ridding this country of that foul disease, tuberculosis. With regard to meat inspection, from his experience of travelling about certain parts of the country, he could say that meat inspection was, to use a mild term, an absolute farce; and until veterinary surgeons were put in their proper position with regard to the matter he did not see any chance of improvement. (Hear, hear.)

The toast of "The Ladies" having been proposed by Dr. Charnock Bradley, was eloquently replied to by the Lady Mayoress.

THE NORTH WALES SOCIETY'S EXCURSION.

On Friday, 28th, members of N.V.A. and their friends were invited by the North Wales Veterinary Society to a coaching excursion amongst the mountain passes. The previous day had been wet, and the mountains shrouded in clouds, and the morning of Friday was not bright, but half-an-hour after leaving Carnarvon we were in sunshine, and with beautifully clear air and light breeze the day could not have been finer. The road chosen was to

the S.E. from Carnarvon, past the old parish church at Llanbeblig, rising steadily till shortly before the mountains shut in on the road there was a magnificent prospect of the Isle of Anglesey, Carnarvon Bay, and on the far horizon the shores of Ireland. Then for miles through constantly varying mountain scenery till a short halt at a hostelry overlooking Llyn Quellyn, where some of us recognised the legend "Ind, Coope"—and deliciously cool the nectar was. The next halt was at Beddegeleert, where Luncheon was served at the Saracen's Head Hotel, and the health of Mr. R. S. Rowlands (President), and Mr. L. W. Wynn Lloyd (Secretary) was given with musical honours.

From Beddegeleert the road runs N.E. through the picturesque Vale of Gwynant, past Llyn-y-ddinas and Llyn Gwynant. At Pen-y-gwryd there is another cool cellar. Here a road goes eastward to Capel Curig and Bettws-y-coed. Our road was westward, up to Pan-y-pass (Gorphwysfa), and thence down the narrow and rugged pass of Llanberis, with its sides towering up nearly 3000ft., the crest of Snowdon close above us on the left but not visible. Half-a-dozen miles brought us to the Hotel where tea was served, and another hour brought us to Carnarvon and the close of a delightful excursion through scenery probably unequalled in the British Isles.

There was the usual display of Instruments, etc., in the Guildhall, on Wednesday and Thursday: Messrs. Arnold and Sons, Willows, Francis, and Co., Hewlett and Son, Huish and Co., and Messrs. Favre, with Hauptner's instruments and appliances, were represented.

Royal Sanitary Institute Congress.

MEAT INSPECTION.

At the concluding session of the Royal Sanitary Institute Congress at Belfast on Friday, 28th ult.,

Mr. W. G. Barnes, chief veterinary inspector, Metropolitan Cattle Market, Islington, contended that in many rural districts meat inspection was theory instead of practice. The system in this country was most unsatisfactory, and must continue so until those authorities responsible for public health ignored trade objections and vested interests, and made legislation under which the standard of inspection must be uniform throughout the whole country. They must also see that the existing regulations with regard to imported meat were uniformly carried out. Hence the necessity for an international conference for the formation of such regulations as should be binding on all the Governments concerned.

Dr. W. Hanna, assistant medical officer of health for Liverpool, said that the bulk of the foreign meat reaching this country was free from disease. Searching examination made by the Liverpool sanitary authorities of Chinese pork satisfied them that it was fully as sound as any bred in this country. A considerable improvement in those imported pigs as regards disease was already manifesting itself as the result of stricter and more systematic examination carried out in China. He would like to see some uniformity with regard to meat inspection generally, with proper stamping of meat as regards its condition on slaughter.

Mr. James Jordan, Belfast, contended that the marking of meat was the only practicable method of ensuring the efficient inspection of meat shops.

Dr. Collingridge, London, said it would be far better if they did not bother with the marking of foreign meat. Let them confine marking to sound healthy meat production at home.—*The Times*.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders (including Farcy)		Counties Affected	Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Animals Attacked	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported								
GR. BRITAIN.												
Week ended July 29	5		8			60	1	2			53	719
Corresponding week in	1910	22		34	1	14	8	57	Kent 1	4	27	359
	1909	23		31			11	32		2	41	345
	1908	25		27			23	46		4	35	318
Total for 30 weeks, 1911	512		639		7	420	114	291	Warwick 1	303	1568	18235
Corresponding period in	1910	889		1078	1	14	211	649		326	884	8014
	1909	807		1080			338	1276		463	1098	9732
	1908	680		917	3	112	490	1526		633	1345	7219

Board of Agriculture and Fisheries, August 1, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended July 29	...	...	...	...	...	...	...	...	2	153
Corresponding Week in	1910	...	...	...	...	...	...	...	2	3	15
	1909	...	...	...	...	...	...	...	3	...	12
	1908	...	...	...	...	...	...	...	1	1	114
Total for 30 weeks, 1911	...	6	7	...	...	2	3	44	245	76	1382
Corresponding period in	1910	5	8	...	...	1	2	43	341	65	1553
	1909	3	3	...	...	...	...	61	305	73	1311
	1908	5	8	...	...	...	...	26	271	124	2688

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 31, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

PARLIAMENTARY.

In the House of Commons, on Wednesday, July 26.

MILK AND TUBERCULOSIS.

Mr. C. BATHURST (Wilts, Wilton, Opp.) asked the President of the Local Government Board if he would say upon what day he proposed to introduce the Milk and Dairies Bill; and whether any of the provisions of such Bill had been modified in consequence of the recently issued Final Report of the Royal Commission on Human and Animal Tuberculosis.

Mr. BURNS (Battersea).—Due notice will be given of the introduction of the Bill. I am considering what modifications in the Bill may be necessary by reason of the Report of the Royal Commission.

Mr. C. BATHURST asked the President of the Local Government Board whether he was conversant with the experiments which had been recently conducted on human beings in Germany in order to test the extent of the risk resulting from the human consumption of milk obtained from cows infected with tuberculosis of the udder, and with the report published last year by the Imperial Health Office of Germany based upon such experiments; whether, in the light of that Report, he was advised by the medical experts of his Department that the drinking of, as distinct from the inoculation with, cows' milk containing tubercule bacilli was calculated seriously to endanger human health even in the case of children; and whether, in view of the absence of deleterious effects resulting from most of the feeding experiments conducted by the Royal Commission on Human and Animal Tuberculosis, he would, in order to allay undue alarm upon this subject, cause further scien-

tific investigations to be made before taking drastic measures in respect of the national milk supply on a possibly false hypothesis.

Mr. BURNS.—The experiments referred to were merely observations on the medical history of 360 persons (151 children) who were stated to have consumed tuberculous milk. My advisers agree with the finding of the Royal Commission on Tuberculosis to the effect that "measures for securing the prevention of ingestion of living bovine tubercle bacilli with milk would greatly reduce the number of cases of abdominal and cervical gland tuberculosis in children," and there is nothing in the facts contained in the German report referred to in the question which is incompatible with this conclusion. It would be superfluous, in view of the many years' work of the Royal Commission, to cause further scientific investigation to be made on the points which they have definitely settled.

Mr. C. BATHURST asked whether among the medical profession it was not universally admitted that the disease was due more to predisposition caused by insufficiency of milk than to the presence of bovine germs in the milk itself.

Mr. BURNS said that view was held by some members of the profession entitled to respect, but others equally entitled to respect held a very opposite view.

PROTECTION OF ANIMALS BILL.

In the House of Lords on Thursday, July 27.

On the motion of Lord Saye and Sele the House went into Committee on the Protection of Animals Bill, the Earl of Donoughmore in the Chair.

On Clause 1 (Offences of Cruelty),

The EARL OF CROMER said that, as it appeared that vivisectionists were not to be liable to prosecution under the bill to any greater extent than the present law permitted, he would like to say, as President of the Research Defence Society, that the members of that Society not only did not oppose the Bill, but that they were in accord with the general object which it sought to attain. They welcomed any reasonable attempt to stop wanton cruelty. He thought the noble lord who was promoting the Bill had exercised a wise discretion in leaving the vivisection question alone. It would manifestly be very undesirable to attempt to deal with a controversial matter of that sort until the Royal Commission had issued its report, which, he earnestly hoped, would not be very much longer delayed.

The Clause was ordered to stand part of the Bill.

On Clause 6 (Poisoned grain and flesh, etc.),

Lord SAYE and SELE moved to omit certain words in Sub-section (b) and to insert the following proviso:—"Provided that in any proceedings under paragraph (b) of this section it shall be a defence that the poison was placed by the accused for the purpose of destroying rats, mice, or other small vermin, and that he took all reasonable precautions to prevent access thereto of dogs, cats, fowls, or other domestic animals."

The amendment was agreed to.

Earl CARRINGTON moved the omission of Clause 8 (Extension of powers of Board of Agriculture and Fisheries with respect to the making of Orders), on the ground that the purpose in view was covered by a Bill which had passed both Houses and was now awaiting the Royal Assent.

The amendment was agreed to.

On Clause 9 (Inspection of traps),

The EARL of DERBY expressed the opinion that the phrase "spring trap" required stricter definition. Both mouse-traps and mole-traps were spring traps, but it was surely not intended that they should be covered by the clause?

The MARQUESS of LANSDOWNE failed to see how it would be possible to enforce the provision that some competent person should inspect the trap "at least once in every 12 hours."

The EARL of DERBY moved the omission of the Clause.

The motion was agreed to.

Lord CLONBROCK moved an amendment setting forth that nothing in this Act should prevent owners or occupiers of land in Ireland from laying down poisonous matter after proper public notice. This was for the protection of farmers against loss from wandering dogs.

Lord HERSHELL said the amendment was in accordance with the views of the Irish Board of Agriculture.

The amendment with verbal alterations was agreed to, and the Bill as amended was reported to the House.

The Crochmore Donkey Case: Slander Action Settled.

In the First Division of the Court of Session on Friday, 21st ult., before the Lord President and Lords Kinnear, Johnston, and Mackenzie, intimation was made that a settlement had been effected in the action by James Lindsay, M.R.C.V.S., 35 Whitesands, Dumfries, against John Henry Ferguson of Crochmore, Irongray, which was set down for trial by a jury on Tuesday last. The pursuer concluded for the payment of £500 damages in respect of slander uttered by the defender in connection with a donkey at Crochmore, which the pursuer examined. The slander arose in a small debt action for damages for alleged slander which the defender raised against the pursuer in which the statements complained

of were made. Further, the pursuer complained that the action was dropped, and he was thereby deprived of an opportunity of answering the statements. The defender denied the slander and pleaded privilege.

In terms of the joint minute by which the action has been taken out of Court, the defender agrees to pay the pursuer £50 of damages and expenses, judicial and extrajudicial. He further sent the following letter to the pursuer:

To Mr. James Lindsay, M.R.C.V.S., Dumfries.

Sir,—With reference to the action you have raised against me in the Court of Session for damages for slander in respect that I accused you of having falsely, and well knowing the same to be false, granted the following certificate: "I hereby certify that I have this day at the instance of J. H. Ferguson, Esq., of Crochmore, Irongray, Dumfries, examined a donkey, seven years old, and find the said animal going sound, but in poor condition, suffering from sores on its back, and totally unfit for work at present." I hereby unreservedly withdraw said accusation, express my regret, and apologise therefor.—Your obedient servant,

(Signed) J. HY. FERGUSON.

I adopt the above as holograph.

(Signed) J. H. FERGUSON.

Dumfries, 17th July, 1911.

Agents for the pursuer—Messrs. Adamson and Blacklock, Dumfries; for defender—Mr. W. Nicholson, jun., Kirkcudbright.—*Dumfries and Galloway Standard and Advertiser.*

The Royal Veterinary College.

At the annual meeting of the Royal Veterinary College, Mr. Albert Brassey presiding, said there had been a considerable falling off in the number of students—namely, 35, compared with 41 last year. Whether that decrease was due to the increased use of motor traction and the restricted demand for horses he was not prepared to say, but the result certainly pointed in that direction. Financially they were all right, the income exceeding the expenditure by £25. The Government grant had been increased from £800 last year to £1,300 this year, and the Royal Agricultural Society had supplemented this by an additional grant of £200 for three years to defray the cost of research regarding animal disease. The Duke of Bedford and Lord Crewe were elected vice-presidents, and Major-General Pringle, Colonel Vaughan Lee, Lord Harlech, Mr. Stewart Stockman, Chief Veterinary Officer to the Board of Agriculture and Fisheries, and Mr. F. Reynard were appointed governors.

Personal.

DR. J. G. RUTHERFORD.

Federal agriculture at Ottawa loses an invaluable servant through the resignation of Dr. J. G. Rutherford, Dominion Veterinary Director-General and Live-stock Commissioner. John Gunion Rutherford first saw the light of day in Peeblesshire, Scotland, having had the fortune to be born a minister's son. He was educated in Glasgow, and arrived in Canada, September, 1875. Like so many of his countrymen, he found in the Dominion a field to develop his native calibre, and his career has been marked by a brilliant course of professional and administrative success. From 1889 to 1901 he practised veterinary medicine, was elected to the Manitoba Legislature in 1892, serving till 1896. In 1897 he was elected to the Dominion House of Commons. Subsequently entering the Department of Agriculture, he was in 1904 made Veterinary Director-General, and in 1906 was called to fill a dual capacity, acting as Veteri-

nary Director-General and Livestock Commissioner. In both spheres he has achieved conspicuous success. His work in suppressing contagious diseases of animals in the West and elsewhere has been thoroughgoing and proportionately successful. As Live-stock Commissioner, he has succeeded in retaining the goodwill and respect of stockmen the country over, while serving their interests judiciously at every turn. At conventions his advice has always been sought, and almost invariably followed. As a veterinarian, he ranks among the most eminent in America. He was last year president of the American Veterinary Medical Association, and was, if we mistake not, the prime mover in securing the appointment of the International Commission on Tuberculosis, on which he served most effectively. The strain of work has told, however, upon his health, which has not been the best the last few years, though we are definitely advised that this is not the cause of his resignation, which he was asked, but declined to reconsider.

HOWARD—MACKERCHAR.—At Wellington, N.Z., on Saturday, June 17, Edmund Carlisle, M.R.C.V.S. (Government Veterinarian), eldest son of the late Edmund George Howard, F.R.C.S., F.R.S.E., Clitheroe, Lancashire, England, to Margaret, eldest daughter of Donald MacKerchar, Stirling, Scotland.

PAGE—BLAKEWAY.—On the 1st inst., at the Parish Church, Chaddesley Corbett, by the Rev. G. Griffith Williams, vicar, Robert Page, second son of John Page, Esq., of Hill Pool, Chaddesley Corbett, to Hilda, only daughter of John Blakeway, F.R.C.V.S., late of Birmingham.

OBITUARY.

Mr. William Carless, M.R.C.V.S.

By the death of Mr. Carless, of Stafford, which occurred on Thursday, 13th July, the profession lost one of its oldest and best practitioners. His great experience and sound judgment gained for him a very extensive practice and a high reputation in the Midlands, where the Carless family has been engaged in veterinary work for a century and a half.

Mr. Carless frequently acted as Veterinary Surgeon at Agricultural Shows, he was veterinary adviser to the Staffordshire County Council, a local inspector to the Board of Agriculture and to the Stafford Town Council. He was, until quite recently, when his health failed, a regular attendant at the Midland V.M.S., and when he spoke it was always to add some reliable facts or shrewd criticism to the debates.

Those who knew him outside of his profession entertained the highest respect for the deceased gentleman who under a reserved manner hid a warm heart. He took little or no part in public life, which perhaps was a loss, as his commonsense and absolute integrity would have given him a weighty influence on any authority.

Mr. Carless' death was not unexpected, and followed a long and painful illness. He leaves three daughters and a son. His age was 71. The practice will be continued by his partner, Mr. H. Thackeray.

From *The Staffordshire Mercury* we quote a notice of the funeral which further marks the respect felt by everyone:—

The funeral of Mr. William Carless, M.R.C.V.S., of Eastgate, Stafford, took place on Saturday, July 15th. Prior to the interment a service was held at St. Austin's Church, where a Solemn Requiem was sung, unaccompanied, to the Mechlin chant, by the Rev. Canon Keating. The Rev. J. M. Lillis acted as Master of the Ceremonies. After the Mass, Canon Keating delivered a short address, eulogizing the character of the deceased

and his many good qualities. Subsequently the interment took place at the Cemetery, the coffin being placed in the family vault. The last rites were performed by the Rev. Canon Keating and the Rev. J. M. Lillis. The mourners were Miss Clare Carless (daughter), Mr. and Mrs. Rupert Evans, Mr. and Mrs. Thackeray, Mr. Reginald Carless (Stafford), and Mr. W. S. Carless (Worcester), nephews; and Miss Madge Carless (niece). Among those who attended the service at church or were present at the graveside were Dr. C. Reid, Mr. J. E. Evans, the Mayor of Stafford (Ald. T. Westhead), Ald. E. W. Taylor, the Mayor of Newcastle (Mr. R. C. Trigger, F.R.C.V.S.), Mr. W. Coe, M.R.C.V.S., (Stoke-on-Trent), Mr. W. Towers Mynors (representing the Earl of Shrewsbury and Talbot), Mr. G. E. Nuttall, Mr. G. S. Parker, Mr. T. Coulthwaite (Hednesford), Mr. W. Sampson (Stowe), and Mr. Louis Sandy. Many floral tributes were sent. As a mark of respect to the memory of the deceased, who held an official appointment under the Corporation, the Union Jack was placed at half-mast at the Guildhall.

PROFESSIONAL FEES.

Sir,

I, like Mr. Henry J. Pope, of Kensington, was very much interested in the report of the South Durham and North Yorkshire V.M.A. and am glad that Society has had the courage to open a discussion on the subject of professional fees, which have, through the action of weak-kneed cheap-jack kind of practitioners in nearly every district gradually been getting lower and lower the last ten or fifteen years. It is quite time the profession woke up and attempted to do something in the matter, and I hope that every Veterinary Society will, in the near future, copy the South Durham and North Yorkshire V.M.A., and bring the subject prominently before their respective members.

Of course there cannot be a uniform scale of fees for the whole profession, because some animals are only of a commercial interest, and others of a sentimental value. The latter including cats and dogs are luxuries, and should be treated as such, more especially in districts where the clients are rich and can afford and are willing to pay for skilful services.

I should have thought no prominent firm in the West End of London would have charged such a ridiculous sum as mentioned by Mr. Pope, whose minimum fee for treatment of small animals in his infirmary seems to me very moderate indeed. Perhaps the prominent firm of which he complains only value their services at a low figure. If so it must in time recoil upon them, who will, no doubt, when anything goes amiss with their patients, be treated by their clients as cheap-jacks and people to be avoided. As it seems, according to the facts mentioned by Mr. Pope, their client afterwards became Mr. Pope's.

Some few years ago it was reported in the daily press that a prominent member of the profession stated in a Court of Law that 1/- per diem was a sufficient sum for the keep and treatment of a dog. If this be the charge of a reputed leading light of the profession, how will the smaller fry fare in the question of fees. I consider one should value his services according to his own estimation, certainly not at the lowest of cheap-jacks, cutters, etc.

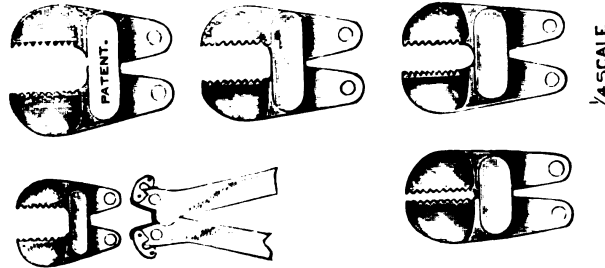
What with well advertised sanatoria run by various people, aided and abetted by practitioners, or even run by members of the profession under different guises one would, at first sight, be led to conclude there would soon be very little left for the majority of canine practitioners. Fortunately, however, the majority of the public well know if they wish for good services they must pay for them. British workmen are more sensible than veterinary surgeons.—Yours truly,

"VIS UNITA FORTIOR."

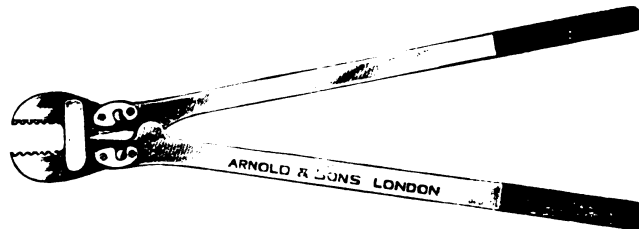
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SESSION 1911-12.

The Winter Session will commence
on Monday, October 2nd,

When the Chair will be taken by
LEONARD BRASSEY, Esq., M.P., and the
INTRODUCTORY ADDRESS delivered by
STEWART STOCKMAN, Esq., M.R.C.V.S.,
Chief Veterinary Officer to the Board of
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RICHARD A. N. POWYS, Secretary.
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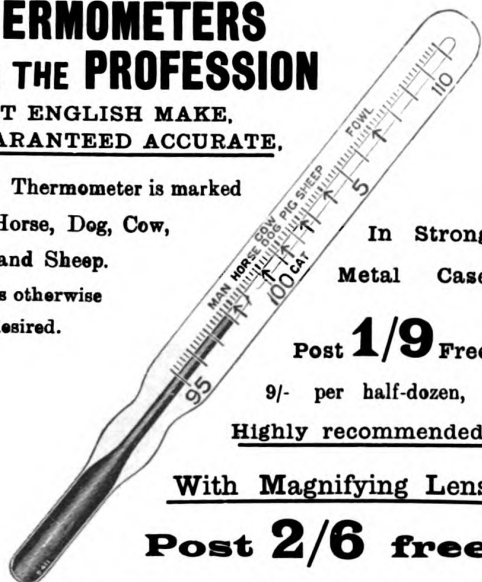
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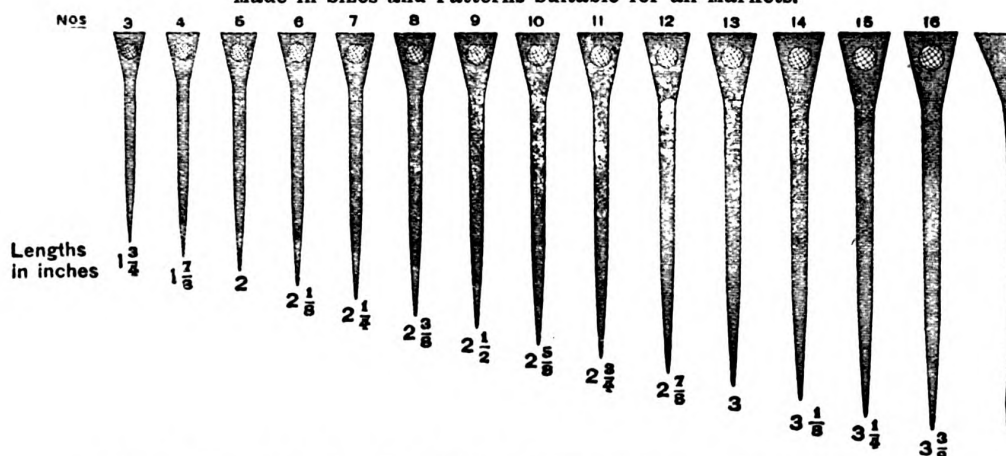
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SESSION 1911-12.

The Winter Session will commence
on Monday, October 2nd,

When the Chair will be taken by

LEONARD BRASSEY, Esq., M.P., and the
INTRODUCTORY ADDRESS delivered by
STEWART STOCKMAN, Esq., M.R.C.V.S.,
Chief Veterinary Officer to the Board of
Agriculture and Fisheries, at 3 p.m.

An Examination in General Knowledge will be held at the ROYAL VETERINARY COLLEGE, CAMDEN TOWN, N.W., by the Educational Institute of Scotland, on 7th, 8th, and 9th of September.

The College Calendar, with full particulars of Fees, Prizes offered, duration of Terms, and other information will be forwarded on application to

RICHARD A. N. POWYS, Secretary,
July, 1911.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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VOL. XXIV.

GLANDERS IN LONDON.

The summary of returns under the Diseases of Animals Acts for the week ending July 29th shows that no case of glanders was detected in London during the week. Of course this does not suggest that the disease has been stamped out in the metropolis, but it is strong evidence that the Order of 1897 is being so administered as to ensure success. Before the Order was in force London had some 30 cases a week, and this is the second time that a free bill has been attained.

The long period of latency of the disease is the difficulty in clearing out glanders. Months may pass during which an unsuspected horse may remain infected without any indication of his condition, and then he may develop clinical symptoms and infect other horses. Without mallein these cases might continue the disease for years, but as each clinical case is now followed by a mallein test of the whole stud there is little chance for the escape of infection, and so we may look forward with confidence to the entire suppression of glanders at no distant date in Great Britain. Ireland is already free.

THE V.M.A. OF IRELAND.

From the report of this Association's proceedings which we print this week, it will be seen that Profs. Mettam, Craig, and O'Connor provided the members with material for discussion of quite unusual interest and variety. Four communications from the Dublin teachers were placed before the meeting—all of scientific interest and all having considerable practical bearing upon every day clinical work, while their diversity of subject-matter catered for the needs of all the members. Every practitioner should read the full report; and, whatever his line of practice may be, he will find something of interest and value.

First came a *resumé* of experimental work, some of it performed at the Dublin school, upon the still somewhat debateable question of the fate of fluids in the stomach of ruminants—a subject of incalculable importance in country practice, as was well illustrated by the discussion. Then followed some experiments upon eserine, which do much to discredit the view that that drug is unreliable in its effects upon the normally charged equine intestine. Next came a contribution to the question of canine and feline tuberculosis—a subject which certainly has not yet received the amount of general attention it deserves from practitioners. Finally, Prof. O'Connor presented a report upon the results of the "roaring operation," showing a commendable attention to detail. Not all of the cases reported upon can yet be finally set down as successes or failures;

but the present results distinctly support a view which is now gaining ground, viz., that causes other than paralysis of the arytenoid produce roaring more frequently than has been generally supposed. This may, in one sense, cast undeserved discredit upon the operation, but it certainly limits its usefulness.

The next meeting of the Association will afford a good opportunity of ascertaining the present views of Irish veterinarians regarding roaring and its treatment, for Prof. Craig has promised a paper upon "Roaring and whistling." But it seems evident that all treatment will be more or less unsatisfactory until we can improve our knowledge of the complex pathology of roaring, and our methods of clinical differential diagnosis. An exploratory incision into the larynx is hardly an ideal diagnostic procedure; and there seems to be no other method of determining whether or not arytenoid paralysis exists.

The staff of the Dublin College, however, are doing their share of work upon roaring—and upon other subjects of even greater importance to the practitioner. They presented a portion of it at the meeting under notice, and its value will be widely recognised outside Ireland.

PITFALLS.

It would seem not unreasonable to suggest that the question of the lurking snares and pitfalls that lie privily in wait for the first tottering steps of the veterinary aspirant might with profit constitute a subject for a short course of lectures at our Colleges. In view, moreover, of the early essay into the art of healing made by most keen students, the first year might be chosen as a suitable opportunity for a little light upon the path. Theoretically of course the student is not supposed on the passing of his first examination to have entered upon that stage of his education which would justify him in undertaking any treatment. In point of fact, however, the average student is not slow to avail himself, during a vacation in his own district, of any small prestige that may attach to his being at a Veterinary College, and he is humanly apt to "assume a virtue" if he hath it not. There must be many of us to whom the twinges of a remorseful conscience will testify to the truth of this statement, when, with zeal vastly disproportionate to knowledge, we rushed in like fools "where angels fear to tread." There are, of course, fatalists who say that each man must make his own mistakes and gain thereby his own bitter experience, but though this conclusion is to a slight extent admissible, it is far too pernicious a doctrine to admit unreservedly. To admit this

would be to place empiricism on a lofty pedestal at the foot of which education would clamber in vain. The red flag in the hedge is sufficient evidence of wire to most people; it is only exceptionally that a broken arm or collar bone is necessary to demonstrate its significance. There is no doubt that in the course of College education the majority of our teachers endeavour to point out as they go along the mistakes that are likely to be made, and the course that should be taken to avoid them, but these warnings coming, as they often do, as additional pabulum to a mind already gorged with facts and in a state of mental dyspepsia, are not digested as they should be. If a separate subject could be made it would appear likely that the lessons might be better taken to heart.

And now to take a few illustrations of these pitfalls. The ill-judged poulticing and hot fomentation of a wound in the region of a joint, leading to softening and ultimate septic infection of the joint. The recollection is still sore with me how that I brought about the uselessness of a hundred guinea hunter, that had injured his knee by falling with me in a point-to-point, by these means. Fortunately he was the property of a close and amiable relative. Thinking to effect a speedy cure I instituted a course of poulticing—hot fomentations which were followed in the fullness of time by escape of synovia from the softened capsular ligament, infection, and open joint. This was during my second year.

Another well marked case of error that occurs to me was castration by not over clean ligature leading to schirrus cord and subsequently peritonitis and death.

The opening of a bursal enlargement over the cervical vertebrae leading to infection and fistulous wither.

The opening of a bursal enlargement in front of fetlock (due to rupture the result of contusion), leading to septic infection and death.

The administration of aloes in Pink-eye. In this case the yellow staining of the conjunctiva evoked the diagnosis of "liver out of order." How was the poor tyro to know that this pigment staining is hæmatogenous and not hepatogenous in origin. In this case the result was superpurgation and death.

Puncture firing of a slight spavin leading to penetration of the true hock joint and subsequent septic arthritis.

It is hardly necessary to multiply instances. All of us must be able to recall such mistakes. The epitaph "killed by kindness" might be written over scores of nameless graves, and the murderer has not always been a layman.

"Seeing practice" as a student goes far to place the qualified V.S. above the danger of the simpler errors, but it is sad to contemplate the slaughter of the innocents that have marked his uphill progress. In many cases, too, where the student is seeing practice with a busy V.S. it frequently happens that almost at the beginning of his experience a lad of promise has many fairly responsible cases delegated to him for his sole treatment.

There are many points on which a lecturer might lay great stress. The danger of probes. Even in the most experienced and expert of hands the probe is not always a safe instrument; in the hands of the tyro it becomes a menace. A movement of the animal and in goes the probe, opening up fresh tissues for infection, penetrating synovial capsules, and doing all manner of harm. Then the drenching of animals indiscriminately. The tying up of the head of a pneumonia case while copious libations of fluid and frequently acrid drugs are poured impartially down trachea and oesophagus. The castration of colts through a tiny crooked incision in the scrotum through which the testicle can only be squeezed with difficulty, leaving a dependant pocket admirably suited for the retention of wound discharge. The cauterization of the bleeding spermatic cord stump with *white* hot iron, and the application at the same unsuitable temperature to the docked tail stump.

The mistakes which the tyro makes are not new mistakes. They are the same mistakes over and over again with each succeeding generation. They are not even numerous. They should form a subject, the instruction in which should be so thorough that each student on being questioned would be certain of 75% marks.

WAKEFIELD RAINEY, Capt. A.V.C.

Tempe, Orange Free State.

PARALYSIS IN DOGS.

By HENRY GRAY, M.R.C.V.S.

"W. R. C." in a footnote to a translation from the German on "The Conformation of the Dachshund as a Cause of Paraplegia" questions Jakob's conclusion that long-back breeds are more commonly affected than those having short backs.

Although I cannot accept Jakob's explanation of the causation of paraplegia in Dachshunds, my experience so far as the disease being oftener encountered in long-back dogs absolutely coincides with his.

I have found that nine cases out of ten occur in long-back dogs; nine cases out of ten of these in the Dachshund, and nine cases out of ten in the Dachshund in the fawn variety.

In the fawn variety it seems hereditary. This can be explained by Mendel's Law. In numerous instances I have found several members of the same strain attacked. Indeed, I have seen brother and sister, mother and son, etc., attacked with paraplegia at the same time.

I consider there exists in this breed a liability to a rheumatic diathesis, if I may be allowed to use such an expression. Time after time I have seen rheumatic symptoms precede the paraplegia, which is a pressure paralysis, brought about by a thickening of the spinal dura mater. If the rheumatic process attacks the dura mater in close proximity to the sensory roots of the spinal nerves, great agony is experienced (*vide* a paper by me on this subject in *The Veterinary Record*, July 16th, 1904). If, however, only the dura mater not in the vicinity

of the spinal nerves be affected, paralysis without any agony is encountered.

These cases usually respond to the treatment generally recommended for rheumatism. Aspirin (or acid acet. salicyl.) or sodii salicylas, and after a time potassium iodide are the best agents, either by the mouth or by ionization. Strychnine, Nuxvomica, or electricity are useless; they generally make paraplegia due to pressure worse or incurable.

The second paragraph of "W. R. C." translation seems to me far-fetched if not contrary to fact. Perhaps "W. R. C." will give your readers *his* reasons and *his* facts for doubting the greater prevalence of paraplegia in long-back dogs than in the short-back breeds?

NEW SKIN DISEASES IN THE DOG.

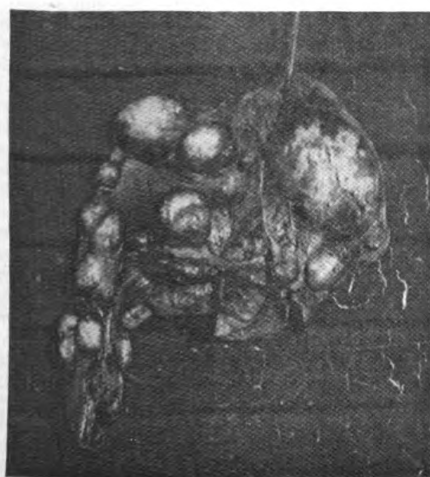
By HENRY GRAY, M.R.C.V.S.

On p. 72 of *The Veterinary Record*, July 29th, 1911, Mr. Livesey is reported to have stated at the last meeting of the Central Veterinary Society that he had encountered, during the last ten or twelve years, several cases of a peculiar skin disease in the dog, which had not been described or named. I believe this is contrary to fact. On reading Mr. Livesey's description, as reported, I consider his cases were none other than follicular mange, plus the bacillus of necrosis.

It is not always easy to find the follicle mite unless true yellowish pustules are present. In one case in my mind's eye three months elapsed before I could confirm my diagnosis of follicular mange by finding the follicle mite, and then only in one isolated pustule.

Tincture of iodine, biniodide of mercury ointment, mercurial ointment, pure creolin, or nitrate of silver have usually, in my hands, brought me success in such cases as described by Mr. Livesey.

TUBERCULOSIS IN THE HORSE.



Subject. Cart horse, six years old.

History. Owner paid 45 guineas for horse three months previous, and said it had gradually wasted away. I was asked to destroy the animal and make a post-mortem, but on arrival at farm found the animal had been dead some six hours.

Post-mortem. The whole of the mesenteric glands, right kidney, spleen, and right tubercle (the subject was a monorchid) showed characteristic signs of caseation and calcification, and were enormously enlarged, with the exception of the testicle which was atrophied and solid. The spleen weighed over twenty-two pounds.

JAMES M. RICHARDSON, M.R.C.V.S.

Deal.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

(Concluded from p. 96.)

SOME NOTES ON THE PASSAGE OF FLUIDS THROUGH THE STOMACHS OF RUMINANTS.

By Prof. CRAIG, M.R.C.V.S.

To the classical researches of Flourens and Colin we are indebted for our present knowledge of the physiology of the stomachs of ruminants. Both these investigators showed beyond doubt that all the solid materials pass after the first deglutition from the oesophagus only into the reticulum and the anterior portion of the rumen. From their experiments they also concluded that fluids and semi-solid material were carried in small proportion from the oesophagus directly through the oesophageal groove to the omasum and thence to the abomasum. The experiment on which they based their conclusions were the following:—

1. Flourens fed a sheep on some roots reduced to a fine pulp, and then immediately afterwards destroyed the animal and made a post-mortem examination. He found the pulped roots in large proportion in the rumen and reticulum, but also in appreciable quantity in the omasum and abomasum.

2. He also made a fistula in connection with each of the four stomachs and found that fluid escaped simultaneously from these openings whenever the ruminant was allowed or forced to drink some liquid.

3. Colin made a large fistula into the rumen in the left flank of an ox. In order to ascertain where the liquids passed from the oesophagus he inserted his hand through the fistula into the rumen as far as the oesophageal opening. He found that when the animal drank water that the latter entered in greater part into the reticulum and then flowed over into the rumen. Placing his finger in contact with the lips of the oesophageal groove he found them lightly drawn together, and felt a very small quantity of fluid trickle directly through the groove from the oesophagus into the omasum. This experiment he repeated in several oxen with the same result.

The chief objections to the conclusions drawn from these experiments are: Nos. 1 and 2 do not show that any fluids pass into the third and fourth stomachs through the oesophageal groove without mixing with the contents of the rumen and reticulum. To No. 3 it may be objected that the manipulation altered the normal physiological function of the stomachs and of the oesophageal groove.

Investigations in later years have been made with water tinted with some colouring agent, such as magenta

or fuchsin. These fluids have been administered in various ways; in drench, by probang, and with the animal standing or placed on its haunches and the head held back. Immediately after the water was administered the animal was killed and the contents of the stomachs examined.

Vryburg administered two or three litres of water, deeply coloured with fuchsin, by a stomach pump to four adult oxen. The drenching was carried out with the animals in the standing position and the long axis of the head kept horizontal. To two heifers at the Royal Veterinary College of Ireland half a gallon of water, deeply coloured with fuchsin, was given with the ordinary drenching horn; and to a bullock a similar amount of coloured water was administered by probang. A two-year-old bullock was first allowed a bucket of water and then drenched with two quarts of water coloured with magenta. A goat was given a drench of half a pint of water coloured with magenta. During drenching the latter animal was placed on its haunches and the head held back. The animals were destroyed almost immediately after the material was administered and an examination made of the stomachs. In all cases the colouring agent was found only in the rumen and the reticulum; not a trace had penetrated into the omasum and abomasum. The stain had diffused through the contents of the reticulum, but in the rumen it was present only in the solid food near the walls of the organ.

It might be objected to these experiments that they do not represent what takes place when the ruminant drinks voluntarily of water or the other fluids. At least, however, they show what occurs when medicinal or other agents are given in the form of a drench. These agents are diluted by the contents of the rumen and reticulum before they reach the omasum and abomasum.

PASSAGE OF FLUIDS FROM THE FIRST TWO STOMACHS INTO THE OMASUM AND ABOMASUM.

After a variable period the fluids pass from the rumen and reticulum into the third and fourth stomachs, probably by way of the opening in the reticulum. Vryburg allowed a cow to drink about a litre of coloured water and then destroyed it half an hour afterwards. He found the greater part of the fluid in the rumen, but a small quantity had entered the third stomach and stained the upper portion of the leaves of this compartment. The same result was also obtained on killing a heifer which had been given two litres of coloured water by means of an irrigator, half an hour previously. Three other adult cattle were destroyed, seven, eight, and ten hours after the administration of fuchsin solution. In the first case a little of the coloured solution had penetrated into the third stomach; in the second case the contents of the third and fourth stomachs were stained red, but the pylorus was not coloured; in the third case a small quantity of fuchsin had reached the pylorus and entered the duodenum. At the R.V.C.I. a goat was drenched with half a pint of water coloured with magenta and containing ten grains of strychnine, and died twenty-five minutes afterwards. The colouring matter was found in the rumen, reticulum, omasum, and at the entrance to the abomasum.

ABSORPTION FROM THE STOMACHS OF RUMINANTS.

The mucous membrane of the first three stomachs is similar to that of the mouth. The epithelium is thick, squamous and stratified, and not well adapted for the purposes of absorption. The fourth stomach is the true stomach of the ox. In the last experiment in the goat, symptoms of strychnine poisoning appeared in about twenty minutes after administration. Probably in that time some of the material had reached the abomasum and was absorbed.

SECRECTIONS FROM THE STOMACHS OF RUMINANTS.

I have examined numerous sections of the walls of the first three stomachs and have never seen any glands in them. It is said that a few small mucous glands are present in certain portions of the rumen. These glands, if present, cannot however have much effect in increasing the fluid condition of the contents or lubricating their passage. The consistence of the ingesta depends upon the amount of fluid taken in by the mouth as such, or with food, and of the saliva swallowed.

PRACTICAL DEDUCTIONS.

1. Since all fluids taken in by the mouth must be diluted by the contents of the rumen and reticulum, this dilution may interfere with the action of various medicinal agents in certain cases. This may account for the unsatisfactory results obtained in the treatment of parasitic abomasitis. It might, therefore, be advantageous in these instances to inject the vermicides directly into the abomasum through the abdominal wall. The guide line for this operation is the line of right asternal costal cartilages. The abomasum may be punctured in the ox immediately behind this line at any point within a foot of the xiphoid cartilage of the sternum.

2. Where the contents of the first three stomachs are abnormally dry, they may be softened, chiefly by water taken in by the mouth or by increasing the amount of saliva secreted and swallowed. The removal of the ingesta is effected by the muscular contractions of their walls. Purgatives, such as magnesium sulphate act for the most part on the intestines. They stimulate the passage of fluids into the lumen of the bowel by increasing osmosis, and the secretion of the intestinal glands. The mechanical distension of the gut with fluid provokes slight peristalsis. This increased peristalsis may be transmitted thence to the first three stomachs, and perhaps some of the fluid in the bowel may be carried forward to dilute the contents of the omasum, reticulum, and rumen. Stimulants to the muscle fibres are of the greatest service in producing the desired effect upon these organs. Thus it is that such agents as the Strychnine preparations, Nux vomica, and the Ammonia compounds prove very useful adjuncts to laxatives in cattle. It may be truly said that the combination of stimulants with a moderate dose of laxative will effect what a strong purgative of, say, Epsom salts, fails to produce upon the stomachs of ruminants.

DISCUSSION.

Mr. P. J. HOWARD wished to congratulate Prof. Craig and Prof. Mettam on the fact that they had begun to pay attention to perhaps one of the most important matters that concerned the veterinary profession in this country. He did not think they had a lot to learn about digestion in ruminants. He would like Prof. Craig to remember that he must be careful in the deductions he drew from experiments on the sheep as compared with what went on in the ox. Though they were both ruminants in every sense and much alike in the arrangement of the stomach they were very different in the question of their natural lives. (Hear, hear.) It was a common thing to find sheep in various parts of Ireland that had never been known to have a drink of water, and they did well, and were perfectly healthy, whereas in the big cattle rearing districts it was of especial importance to have a sufficient supply of water. His own experience had always led him to think that in giving fluids to the ox that the fluids went directly only to the rumen and reticulum, and probably a great proportion of the fluid remained in the reticulum. It was common in the West to have a good deal of treatment of murrain in cattle, i.e., where they got severe constipation, and on some of these occasions they got ample

evidence that it would be an absolute impossibility for anything to pass through the abomasum, even if they used a force pump. The part would be as much like a football as anything, and it was quite common that this should be going on for a week before it was detected. He believed himself that nothing passed from the reticulum or rumen unless by the process of chewing the cud. He wished to ask whether, in these experiments, the animals had been induced to go through the ordinary process of chewing the cud before they were killed. Even the fluid contents of both stomach pass on in that way. He believed this from his experience of post-mortems on beasts that had died from murrain, in which they got the contents of the rumen and reticulum absolutely fluid, and the omasum parched. He hoped Prof. Craig and Prof. Mettam would help them to arrive at some better knowledge of these matters than they at present possessed. He wished to offer his thanks for the very interesting paper. (Hear, hear.)

Mr. McKENNY said these experiments related to fluids. The natural process with the solids would be different, and the liquid experiments to a considerable extent would give them no information as to the solids. He would agree with Mr. Howard as regards the liquids. For many years past he had made a practice, when an animal was constipated, of giving after every dose of medicine three gallons of warm water—drench them with it, they could not get them to drink water sufficiently warm—and had had wonderful success by the treatment. He thought that success had been explained by the fluid experiments. For almost every disease in the ox he ordered that the hot water should be given two hours after the dose of medicine whatever it may be, and to have this carried out he explained to the owner the necessity of it by saying the medicine would do absolute harm if it was not diluted afterwards with water. But his reason was to soften the contents in the omasum. That was his idea, and he believed that the fluids did pass into the omasum. He would like some experiments as to the solids. It was a subject well worth bringing up, and had been most interestingly dealt with, and could be turned to practical good. (Hear, hear.)

Mr. A. WATSON remarked that one might have feared from the way the paper was titled that it would be most highly scientific, but on the contrary Prof. Craig had handled his subject in such a way as to make it understandable to the man in the street. Certainly similar thoughts occurred to him as occurred to Mr. Howard as to the contrast between sheep and cattle, for he thought he was right in saying that sheep as a matter of fact do not drink water. It was a symptom that they were unwell when they took to water. In their usual health they would be content with the amount of moisture in the pasture. He thought the matter of murrain was one that had a very real interest for every practitioner. Anyone who had treated murrain must be aware that it was futile pour purgatives into the cattle attacked, and how even with enormous quantities of purgatives they did not respond. Before he left practice he adopted the course of giving along with the purgative tincture of Nux vomica and a good dose of whiskey, in order to get the muscular coats of the stomach to respond, for in these cases they had undoubtedly paralysis of the muscular coats of the stomach. As meat inspector at the abattoir he came across a number of animals sent in to be slaughtered, supposed to be suffering from murrain. The ordinary symptoms looked for in murrain was the condition of the third stomach. If that was dry and hard it was supposed to be murrain, and that no quantity of purgative medicine would remove the obstruction whilst the paralysis existed, so they ought to combine nerve tonics and stimulants.

Another point was the question of absorption from the

first two stomachs. If he took Prof. Craig aright, he seemed to think there was a very small absorption. The area was so big that they could certainly fancy there would be considerable absorption. He might be wrong, but he thought there ought to be less absorption from the rectum than from the rumen. ("No, no.") Why he said so was because in the case of yew tree poisoning, the leaves and small branches were only found in the rumen, and yet death occurred from the poisonous alkaloids. As to the characteristic post-mortem appearances supporting the diagnosis of the pre-existence of murrain, it was a common mistake with practitioners to think because the mucous coats were adherent to the ingesta that murrain must have existed. They never paid any regard to the time the ingesta was left in the stomach before the post-mortem. If it was some time it would become adherent, and it was not a symptom of pre-existing disease at all. (App.)

Mr. WILKINSON: Do you think those changes occur after death?

Mr. WATSON: Yes.

The PRESIDENT: It is uncertain, pure and simple.

Mr. HOWARD: It will occur in two or three hours.

The PRESIDENT: Yes.

Mr. WATSON, in conclusion, acknowledged his generous appreciation of the great service Prof. Craig and Prof. Mettam had rendered them by bringing forward that most important subject in that delightful manner.

Mr. L. M. MAGEE thought that in order to have an accurate and natural test they would have to allow the beast to drink of his own free will, and then slaughter immediately afterwards. He had no data to go on, but he was of the opinion that if, for instance, a bullock was very thirsty and they gave him a couple of buckets of water, a considerable amount of it would pass directly through the omasum into the abomasum. If all the water flowed into the rumen he would not derive benefit from it, or have his thirst quenched, for a considerable time, as that stomach had practically no absorptive powers. That could hardly be said to be a good provision of nature.

Although the omasum or "book" might be packed with food, water could still pass through that compartment by means of the groove which runs beneath the free edges of the leaves, and which forms a direct path from the reticulum to the omasum for fluid and finely divided food. When the layman made a post-mortem examination and found the food between the leaves dry, he naturally concluded that it was the cause of the animal's death, whereas in reality it was a normal condition. There were two conditions generally referred to as murrain—dry, and red murrain. The one under consideration was dry murrain. He thought they did not resort sufficiently to the administration of medicine by the hypodermic syringe. They would get better results if they did.

With regard to Mr. Watson's remarks as to absorption, Mr. Magee said the rumen was simply a reservoir and there was practically no absorption from it. As proof of the wonderful powers of absorption of the small bowel he called to mind when he was a pupil with Mr. McKenny, a case of tetanus that for over a month took no nourishment by the mouth except water, and received all its food per rectum, and when the horse recovered he had lost very little of his condition.

Lieut.-Col. STEEL did not think the question of absorption from the rectum admitted of any doubt. He instanced a case in which food was given for six months entirely by injection. That settled the matter at once.

Prof. CRAIG thanked the members for the reception given to the paper. Replying to points raised, he said Mr. Howard in his remarks apparently thought they were paying more attention to the sheep than to the ox.

Mr. HOWARD: Not at all. I simply threw out the

suggestion that you could not be safe in drawing conclusions as regards the ox from experiments on the sheep.

Prof. CRAIG said most of the deductions that were made were obtained from experiments on the ox. Mr. Howard had said he thought unless rumination occurred no fluid, or very little fluid, would pass from the rumen or reticulum into the omasum or abomasum. The experiments he had given were on animals which did not ruminate during the time of experiments, and in the ox, where a sufficient interval had elapsed before the animals were destroyed the fluids had passed from the first two stomachs into the third and fourth. Mr. Magee made a criticism with reference to what would occur if the fluids were taken up voluntarily by the ox. He had just read an experiment with reference to that particular point. It was made by Vryburg, whose observations agreed with their own. The reason he did not refer to it in the first instance was that half an hour had elapsed before the animal was destroyed. The result was—this was his (Prof. Craig's) explanation—that the fluids had passed just as in the case where the animal was drenched, but in the interval after the fluids had been taken in, and before death some had passed from the reticulum into the omasum. If one would judge from that experiment alone one would take it that in natural circumstances the same route was taken, no matter whether the fluids were taken voluntarily or given in the form of a drench. In one case he gave a bucket of water to the animal, and then drenched the animal with the fluid, and they passed, just as in the first instance, into the rumen and reticulum. Mr. Howard referred to the condition of the omasum found commonly in cases of murrain—but also in normal cases—and said that the condition of the omasum was such that no fluids could pass. There was, however, a distinct open run on the floor of the omasum.

Mr. HOWARD: That brings out what I said, that what passes into the omasum goes along that vessel and not by absorption.

Prof. CRAIG said the opinion he held was that murrain was frequently due to some defect in the muscular action of the stomachs of the ox, and that this defect was overcome by the action of stimulants. With regard to the question of absorption from the stomachs of ruminants, the only evidence he could bring forward was that stated in the paper in referring to the nature of the epithelium and the experiment with strychnine. In explanation of what took place in yew poisoning, he considered that sufficient time elapsed between ingestion and death to allow of the passage of the toxic materials from the rumen and reticulum into the abomasum, there to be absorbed. If these stomachs were examined after death it would be found that a large quantity of yew was present in the rumen and reticulum. This must have taken a considerable time to devour. This interval would permit of the solution of some of the active agents in these stomachs and their passage to the omasum and abomasum, where they would be absorbed. Then the symptoms of poisoning would be set up and death result.

NOTES ON THE ACTION OF ESERINE.

By Prof. A. E. METTAM, M.R.C.V.S.

The objects of the experiments was to determine the effects of eserine upon the contents of the alimentary tube when the latter was not surcharged with ingesta; or, to put it differently, to ascertain if eserine would act upon the alimentary tube and its contents as it is known to act in cases of stoppage or obstruction. It has been stated that eserine only exerts its effects when the bowel is filled with ingesta, and that when the tube is relatively empty its effects are little evident or may be entirely wanting.

Messrs. Parke, Davis and Co. kindly supplied me with physostigmine salicylate for purposes of the experiments.

First experiment.—Black, aged gelding, received two grains of physostigmine salicylate into the jugular vein at 9.55 a.m.

The animal defæcated at 9.57 apparently a normal motion.

Fæces was also passed at 10.26 a.m., 11.2 a.m., and 11.35 a.m.

Flatus was passed at 11.45 a.m., but there was no pain and no straining.

Fæces passed at 11.51 a.m., 12.0 noon, the fæces being soft and pultaceous. There never was any sign of inconvenience or uneasiness or any other indication of colic.

The animal was killed at this time for dissection.

Chestnut gelding, aged, received $2\frac{1}{2}$ grains of physostigmine salicylate into the jugular vein at 10.8 a.m. The animal at no time showed any pain.

Fæces was passed at 11.13 a.m.

" " " 11.42 "

" " " 11.56 "

" " " 12.10 afternoon (liquid)

12.30 p.m. the fæces were softened. The animal was uneasy and strained occasionally as if it had had an enema.

Action of the physostigmine passed off about 1 p.m., the animal becoming quiet, and no more fæces were passed while the animal was under observation.

Both animals chumped the jaws, the movements commencing about half an hour after receiving the alkaloid. There was no salivation, save perhaps in the black gelding, where there was possibly some extra secretion of saliva, but nothing of consequence beyond merely mentioning the fact.

Brown gelding, aged, received into the jugular vein three grains of physostigmine salicylate in 12 c.c. of water. The animal had a well marked jugular pulse. The injection was made at 1 o'clock (afternoon). Immediately afterwards the animal appeared dazed, extended the head, and crouched. He then fell forwards and struggled violently. He was much distressed. There was violent muscular spasms and a hippocentric grin. The pupils were widely dilated. The animal lay for some time, occasionally struggling, and had violent paroxysms of spasms. At 1.30 there was much tenesmus and passing of softened fæces; 1.32 more fluid passed; 1.34 fæces passed; 1.36 straining with passage of liquid fæces; 1.38 straining and passage of fæces; 1.40 straining; 1.41 straining and passage of liquid fæces; 1.43 ditto; 1.44 tenesmus; 1.46 ditto, fæces passed; 1.50 great quantity of egesta passed, more than all previous motions collected; 1.54 violent straining, passage of liquid fæces; 1.55 ditto; 1.58 great evacuation of liquid fæces; 1.59 involuntary flow of liquid fæces; 2.0 got up and passed liquid fæces; 2.1 large quantity of liquid fæces; 2.5 straining; 2.6 ditto; 2.7 ditto, and passage of liquid fæces; 2.8 colicky pains, flatus and fluid; 2.9, 2.10, 2.14, 2.16 straining, passage of liquid fæces, colic; 2.18 flatus; 2.19 very violent straining and passage of much fluid; 2.21 ditto; 2.22 straining, 2.24 ditto and flatus passed.

Straining continued, but less frequently, till 3 p.m., pulse at this time 50. The animal was somewhat dull, but there was no pain or muscular spasms.

Four days later the animal received at 11.35 a.m. 1 grain of physostigmine salicylate dissolved in boiled water. Injection was made as previously into the jugular vein. The object of the second experiment with a smaller dose of the drug was to decide if the excessive action of the previous dose was due to any idiosyncrasy, or perhaps to the heart lesion.

Animal immediately became uneasy, and there were violent muscular spasms of abdominal wall. Attempts to evacuate occurred within first five minutes, and the animal strained like a mare at parturition. There was

dilatation of the pupil within ten minutes. The animal made preparation to lie down but refrained (colic). It continued to strain and groan, and passed flatus. There was also regurgitation of air into the bowel. The animal defecated at least eight times during the half hour following the injection, and the faeces became more and more softened, unformed, and like cow dung. The spasms after this became less and less frequent, and eventually passed off. At 3 p.m. the animal was in its usual health. The jugular pulse noticed at the first experiment was still present.

On the same day, and at the same time, the chestnut gelding which got $2\frac{1}{2}$ grains into the jugular vein as above mentioned, also received 1 grain of the physostigmine dissolved in boiled water into the jugular vein. The animal became uneasy, but not nearly so much so as the brown gelding, and defecated twice soon after receiving the dose. There was again champing of the jaws. Faeces were passed on three occasions within twenty minutes after the injection. There was no groaning, no tenesmus as in the brown gelding. Faeces passed were firm. The animal half an hour later was apparently in its usual health. No dilatation of the pupil noticed. At 3 p.m. animal found standing to all appearances perfectly normal, with a soft unformed motion behind him.

The conclusions are that physostigmine acts upon the bowel (muscular coats) even when there is no great excess of ingesta.

Physostigmine acts upon the heart, and that it is better when using this alkaloid to examine the state of the heart, this is indicated by the alarming symptoms exhibited by the brown gelding when it received one grain into the venous system. It is interesting to compare the result of this injection with the effect upon the chestnut gelding. The dilatation of the pupil is interesting and unusual.

Physostigmine, when applied locally, causes contraction of the pupil; atropine, its antagonistic, causing dilatation.

DISCUSSION.

Mr. L. M. MAGEE considered the notes were a valuable contribution to veterinary literature. For the last eight years he had a good deal of experience with eserine and he was convinced that it was a drug that was not used half enough, especially in cases of colic from impaction. Of course, there were many conditions that influenced the advisability of its administration. To his mind it was simply criminal to think that colic, no matter what its cause, could always be treated on the same lines. The custom of sending large bottles of colic medicine, composed mostly of sedatives, to their clients for emergencies should be condemned. The causes of colic were very numerous and their diagnosis often extremely difficult, and one was sometimes justified in waiting half an hour or more before deciding on a line of treatment. Once he had made up his mind that the case was a suitable one he did not hesitate to administer eserine or arecoline. The thing to pay attention to was the pulse. If the pulse was weak these drugs were contra-indicated. For several years he had been a disciple of Caulton Reeks, and was a firm believer in the stimulant treatment of colic. He was very proud of his little veterinary library, but the two books he valued most were Reeks' "Common Colics of the Horse," and "Diseases of the Horse's Foot" by the same gifted author.

Mr. McKENNY asked Mr. Magee which of the two he really believed in—waiting and carefully diagnosing the case and adopting treatment accordingly, or adopting Mr. Reeks' treatment of stimulants? Personally he (Mr. McKenny) used stimulants. He first diagnosed his case and treated it accordingly, but he always used stimulants.

Mr. HOWARD said he had been much disappointed in the action of eserine where you had absolute impaction, and he confined his use of it to where there was flatulence to be got rid of.

Mr. W. H. WILKINSON said he had made considerable use of eserine, and he agreed with Mr. Magee it was one of the most valuable drugs that they had, but it wanted to be used with extreme care. He had stopped giving even two grain doses. He preferred to give a grain now, and one at an hour's time, otherwise they got alarming symptoms.

TUBERCULOUS PLEURISY IN A DOG.

By Profs. CRAIG, METTAM, and O'CONNOR.

The Subject was a mongrel collie dog about 4 or 5 years old.

The History given was that the animal was noticed a few days previously to be affected with dyspnoea, and that the distress in breathing was increasing.

The Symptoms shown when the patient was brought to the College on the 17th January last were the following. The head was stretched out, the mouth kept continually open, the saliva escaping in strings from the angles. The respirations were very much distressed and numbered about 40 per minute. This distress was greatly increased by movement and manipulation. The condition of the dog was very poor and he was not inclined to take any food. He coughed occasionally and there was a slight yellowish discharge from the nose. The pulse was 120, the mucous membranes were slightly injected, the temperature 104°. No lung sounds could be heard on auscultation of the right side of the chest, crepitation or crackling sounds were heard on the left side, especially near the lower border.

The treatment consisted in the application of a stimulating liniment to the chest wall and a cotton wool bandage, and the exhibition of stimulant and internal antiseptics including quinine sulphate, digitalis, and nuxvomica. Nourishing food was recommended, but the dog refused nearly everything that was recommended. Antiseptic inhalations were also given. The treatment was kept up for a fortnight, but the animal became gradually worse. The temperature came down to 102°F. Emaciation was very pronounced. He died on the 2nd February, and a post-mortem examination was made 10 hours after death. On opening the chest, a light yellowish limpid transparent liquid escaped from the right pleural sac. This was estimated at about 3 pints. The pleura was thickened and presented numerous granulations on the costal portion, especially over the intercostal spaces. The right lung appeared as a small knob at the upper portion of the right pleural sac. It was not one-third the size of the left lung. It was closely adherent to the parietal pleura along its upper border and throughout the inner surface. The lung was collapsed, solid, bright red on section, and sank in water.

The left lung was emphysematous along its lower border and in its spiral lobe. The outer surface presented a large scar-like thickening of the pleura. The heart was very muscular. All the other organs were free from naked eye lesions. Some of the exudate from the left pleural sac was centrifugalised and films were made from the sediment for microscopic examination. Numerous endothelial cells and lymphocytes were present in the films. Several round and fast bodies were found, some inside the cells and a very few tubercle bacilli discovered after a very careful search.

The chief interest in this case lies in the absence of any tuberculous lesions, save pleurisy with effusion.

The second case was that of a foxterrier about four years old received into the College Clinic by Professor O'Connor. The dog had been in possession of the owner for two years, and according to his statement had been in good health apparently until a week before.

Examination of the patient showed him to be in a serious condition, indeed in a state of collapse. The temperature was 99 F. Diagnosis made was pleurisy and pneumonia of the left side. The animal died shortly after admission.

Post-mortem examination. The left pleural sac was filled with fluid clear and yellowish in colour. The left lung was collapsed and firm. Cavities were present in the lung, such as would contain a pea, and these cavities contained pus in which acid-fast bacilli were demonstrated in clumps. Large areas of the lung substances were necrosed, refused to stain in sections though plenty of bacilli could be demonstrated in practically pure culture. On the surface of the pleura was an exudate, and there were tubercular granulations low, flat, and yellowish in colour. The pericardium was adherent to the heart, but fluid was absent from the pericardium. An emulsion was made from the lung and inoculated into a guinea-pig which developed tuberculosis.

These two cases illustrate a by no means uncommon condition in both dogs and cats. From the post-mortem findings infection must have been present for some time, and yet the history obtained does not indicate that the owners noticed anything seriously wrong until just prior to the animal being brought into the clinic. Another interesting point is the excessive amount of fluid present in the pleural sac and the remarkable collapse of the lung, next the absence of lesions usually associated with tuberculosis. In the second case the condition of the pleura suggested tuberculosis, and the condition of the lung strengthened that opinion, but nevertheless this case was not one which conformed to the classical description of tuberculosis in the lower animals. A further interesting fact is the absence of lesions in other viscera. I have noticed for a long time the great tendency for tuberculous lesions in the lungs of carnivora to soften and break down and to give rise to the formation of cavities. The size of these cavities of course varies but they invariably contain a quantity of glassy pus, often extremely rich in acid-fast bacilli.

I have observed this condition not only in dogs and cats but also in the larger carnivora of the Zoo, the lion, leopard etc. In the first case we were convinced that we had a case of tubercle, but it was only after centrifugalising the fluid and making films of the precipitate and staining that an absolute diagnosis could be made. As it has been remarked, the bacilli were few and far between, but they were observed in phagocytes.

It is very probable that a very large percentage of cases of pleurisy both in dogs and cats are due to tubercular infection, and that a very close search is necessary before the organism may be found. It is not easy further to say where the organism has gained entrance, though it is very probable (I am aware that many will not agree) that the infection is through the alimentary tract. I have in remembrance a post-mortem examination I made upon a cat. It had been coughing for some time, and on examination it was found to be very thin. It was a Persian, and the great and rapid loss of condition had not been suspected. A very remarkable one-sided pleurisy was found, with a collapsed lung containing small cavities containing pus, with numerous tubercle bacilli present. A prolonged examination of the other viscera revealed a softened caseous centre in a mesenteric gland, which was judged to be earlier than the lung lesions and as indicating that infection had occurred through the alimentary tract. In this case contamination from a human source must be excluded, and infection by inhalation as quite impossible. Nor is it at all possible that infection occurred through the respiratory passages in the larger carnivora already mentioned—they are housed separately, they are not in contact with man, and infection is only possible through the alimentary tract. The same may be said of tuber-

culosis in the raccoon, in which animal I have seen very extensive tuberculosis of the lungs with little evidence of infection in other viscera. I believe that the evidence for infection by inhalation among the lower animals is insufficient, and I am satisfied from the very numerous cases of tuberculosis I have seen in very many species of animals that infection by the alimentary tract is the rule.

DISCUSSION.

The PRESIDENT said the interesting point in this subject was that in many cases of pleurisy they got in dogs tuberculosis was not suspected. There was nothing to lead one to think there was tubercle. He was convinced that a large number were tubercle, and he would be very glad if members when they came across cases of pleurisy would bottle some of the fluid and send it to him. Dogs and cats were brought into such close relation with human beings that they must make as rapid diagnosis of tubercle as possible. That was the reason they brought the matter forward. Tuberculosis was extremely common in dogs, much more common than many of them imagined.

Mr. McKENNY said there was another view that could be taken of this, and that is, if an animal died and it could be found to have tubercle bacilli could that dog be said to have died from tuberculosis? Could the dog not die from pleurisy? As regards the facts produced it appeared to him it could not be said that what the animal suffered from was tuberculosis. It was only that tubercle bacilli were found in an animal that died from pleurisy.

The PRESIDENT: The point is whether tubercle bacillus was the cause of the pleurisy.

Mr. McKENNY said he very much valued the information derived from the study of bacteriology, but he considered that the bacteriologist who merely formed opinions relative to disease from microscopic examinations retarded the practical importance of the subject. The fact that a certain bacteria existed in an animal does not establish that if the animal died the bacillus was the cause of death. For example—suppose an animal meets with an accident, say fracture of the skull, and dies from same, but on post-mortem examination it was found that it had tuberculosis, surely it would be absurd to state that because on microscopical examination tuberculosis bacilli were found, that it was the cause of death, and in the case cited, the link between the pleurisy from which the animal died, and the small quantity of bacilli, resembling those of tuberculosis which on careful examination were revealed, should warrant the definite conclusion that this exceptional case as described was one of pleuretic tuberculosis. Of course the case was one worth recording, and Mr. McKenny felt indebted to Prof. Craig for having reported it, as no doubt it was of much interest and probably, taken with other similar cases, would be of practical use, but it would be premature and unwise to form any definite opinion as to the cause of the pleurisy in this case.

Mr. MAGEE thought the point Mr. McKenny was making was whether it was a mixed infection.

Prof. CRAIG: There was nothing but tubercle bacilli.

Mr. McKENNY: Am I to understand that if you have a dog suffering from pleurisy, and you find tubercle bacilli, it is that which has caused the pleurisy.

The PRESIDENT: That is the inference. Tubercle bacillus as a cause of pleurisy is more frequent than people imagine. In most cases of pleurisy the cause is not known. We say that the tubercle bacillus is more frequently the cause than is imagined. In cases we have looked into we have found tubercle bacilli.

REPORT ON CASES OF "ROARERS."

Prof. O'CONNOR presented the following report on cases of "roarers" operated on before members of the Association.

No. 1. Aged chestnut gelding, a splendid hunter, a loud roarer. Had a tube in his trachea and it was in consequence of this tube "becoming troublesome" that the owner had him operated upon for roaring. The tube was removed at the time of operation. On opening the larynx the left arytenoid was seen to be completely paralysed. The left ventricle only was stripped.

Result. Stenosis of the trachea occurred when tracheotomy had been performed causing dyspnoea, and the owner had the horse destroyed.

No. 2. Aged brown gelding, a good hunter, a distinct roarer. Left arytenoid completely paralysed. Left ventricle only stripped.

Result. A complete success. Only a faint noise can be heard when quite close to the animal during a gallop, whereas prior to the operation the roaring could be heard at a long distance.

No. 3. A 5-year-old hunter, making a noise. Left arytenoid paralysed. Left ventricle stripped.

Result. Operation successful. Hunts and stays well, only making a slight noise when starting to gallop.

No. 4. A 4-year-old brown thoroughbred stallion making a noise. Both arytenoids moved equally but, it was thought, more slowly than normal. Both ventricles were stripped.

Result. Not improved two months after the operation, when he was sold and lost sight of.

No. 5. Bay gelding making a noise, left arytenoid moving feebly. Stripped the left ventricle.

Result. The horse, I was informed, became incurably lame, was not tried, and was got rid of.

No. 6. Bay mare, a trooper, making a noise. Operated on both ventricles by the trephine method. By this method both thyro-arytenoid muscles were exposed and were not atrophied.

Result. After two months not improved, and grunts now in addition to roaring.

Nos. 7, 8, 9. Special reports about these giving the history of the horses before and after the operation, for which I am indebted to Mr. McKenny. Nos. 7, 8 are the cases operated upon at the last Veterinary Medical Association of Ireland held on Nov. 29th, 1910.

No. 7. Bay gelding, four years old, 16-3 hands, flat ribbed, long delicate neck, very thin, unthrifty appearance, visible mucous membrane pale yellow, pulse soft and large, respiratory sounds, upper portion of lungs loud, lower portion crepitating.

History. Got by a "whistler," a large number of whose stock became "whistlers"; out of a sound-winded mare, dam of three other sound-winded horses, but were sired by other horses believed to be sound in wind.

The horse was trained at three years old, and was then sound, afterwards suffered badly from strangles, and ever since was a bad "whistler," and soon became distressed when galloped.

The horse was put out to grass after the operation, and has not yet been removed, but the owner reports that when the horse gallops, he can hear him making a hissing noise, but it is not the sharp distinct whistling noise that it made previous to operation.

No. 8. A bay gelding, six years old, 15-3 hands, good neck and well ribbed. A bad grunter, and made a very distinct whistling noise when galloped, but did not easily become distressed. Bought by a dealer without any history; auscultation revealed no abnormal sounds. Operation most successful, the whistling noise being

completely removed, and the horse remained a good stayer.

No. 9. A black stallion, 11 years old, got by a sire whose stock are well known to be very good and sound in every way. Up to ten years old this horse remained sound; he then suffered from a severe attack of influenza accompanied with a large submaxillary abscess. When he had sufficiently recovered to be exercised, it was noticed that on becoming excited, he made a snoring noise. He was given Iodide of potass. with the view of causing absorption of any thickening of the mucous membrane and abnormal exudation remaining about the throat. At the expiration of three weeks of this treatment he was much better, the Iodide of potass. was discontinued and Liquor arsenicalis was given in half ounce doses three times a day, mixed with two wineglassfuls of cod liver oil, and given with scalded oats; he then was put to his ordinary work, he made no noise when going slowly, but when going fast made a peculiar hissing noise in both the inspiration and expiration. At the end of another fortnight dram doses of powdered Nuxvomica and Sulphate of iron were given in place of the Liquor arsenicalis; this was continued for another fortnight, and alternately these were given as before stated. For three months his work was continued; medicinal treatment was discontinued for two months, at the expiration of which similar medicinal treatment as before stated, was repeated for another three months, during which time the horse occasionally suffered from slight colds, that is, coughed a little, and had a slight watery discharge from the nose. On each of these occasions the noise was more easily produced than usual, and assumed a character more like whistling, that is, it became shriller, and more marked in the inspiration than in the expiration, but it always remained more like a horse suffering from a cold than a pure "whistler," which I hold is quite a different sound. The noise made by a true "whistler" is, as the name indicates, a whistle, and is only heard in the inspiration, and the sound in the expiration is soft.

At the end of about eight months this horse was in strong work, and the day after an extra hard day it required to extend him for a long distance before the noise could be heard: it did not stop him. He then suffered from a severe cold and was laid up for three weeks; he was again gradually got into good working condition, but the noise was as bad as after he had suffered from the submaxillary abscess, and it was determined to remove the membranes from the laryngeal ventricles. Previous to the operation the lungs were examined and found to be sound.

When the horse was cast for the operation and during the administration of the chloroform, the jugular veins became enormously distended and pulsated; he was chloroformed cautiously and it took a long time to get him under its influence, eight ounces of chloroform had to be administered.

When the larynx was first opened we (three veterinarians) agreed that both arytenoid cartilages were acting; however, after a short time one said he thought the left cartilage was not acting as well as the other, and another stated that he thought there was a slight difference, and the third said he was of the opinion both were the same. The skin wound was made not quite so long as usual. The horse got up before he had completely recovered from the chloroform, staggered and fell heavily, and the breathing became very distressed; however, he was held down for fully twenty minutes, and when he got up he at once ate a mash of bran, and seemed no worse for his tumble, but his breathing was very loud and distressed; for the next five days he partook of no food and his breathing became so much worse that it seemed almost imperative to perform tracheotomy. On the sixth day his lungs became affected, he received some fever drenches, and his sides were stimulated with

mustard. Three hours afterwards he ate a small mash of bran, and slowly made a good recovery. However, up to the present, five months since the operation, the noise is no better than it was before the operation.

No. 10. Aged bay hunter gelding, a splendid hunter a loud roarer. Stays an ordinary hunt well, as on account of his big stride he is seldom fully extended, but when the hunt is very fast he shows distress. Both ventricles operated upon. The left arytenoid completely paralysed. Not yet tried.

Remarks. In no case did a horse die as the result of the operation. Some of the cases showed accelerated breathing for a few days after the operation, but No. 9 was the only horse which showed evident distress and decided dyspnoea lasting for five days after the operation. No. 10 was not affected in the least in his respirations at any time after being operated upon. The conclusion I have come to from the foregoing cases is that when the arytenoid is undoubtedly paralysed the operation is likely to be successful, but if the cartilage is not paralysed a successful result need not be expected. It is evident that many horses make a noise from other causes than paralysis of the arytenoid cartilage, and the noise is called roaring or whistling for the want of a better name. Up to the present I am sure many such cases have been operated upon as roarers or whistlers, and have been numbered as examples of failures of the operation. I feel convinced that the reputation of the operation is being damaged in this way.

No. 6 is a striking example of a horse making a noise without paralysis of the arytenoids, for both the thyro-arytenoid muscles were dark red and fleshy in this case, showing that they were not atrophied from paralysis. The loud grunting noise made by this horse when tried about three months after the operation was so extraordinary, resembling somewhat the roar of a lion, that it was thought there was some abnormal thickening in the larynx at the seat of operation. Consequently the larynx was opened in the hope that something might be done to remedy the defect—if present. When the interior of the larynx was examined the ventricles were found beautifully obliterated, the arytenoids standing well out of the lumen, and the mucous membrane throughout was as smooth as if nothing had been done to the larynx. There was no thickening of the thyroid cartilage either inside or outside the larynx. The roaring in this case was evidently not of laryngeal origin, as there was nothing in the larynx to account for such a noise.

DISCUSSION.

Mr. L. M. MAGEE said he had operated on a great many roarers and whistlers. In some cases he had stripped only one ventricle and in others both. He had had successes with both methods. One of the first horses he operated on was about the worst roarer he had heard. He only stripped about half as much of the left ventricle as he now takes away, and the horse came perfectly sound. It was difficult to know whether there was any advantage in stripping both ventricles when apparently only one vocal cord was affected.

He had had a great many successes with the operation, but of course he had failures too, but not many. If the horse was not sound afterwards he was generally greatly improved. Most of his failures were when he first commenced to do the operation and did not always strip the ventricle properly. He could not recall a case where the vocal cord was paralysed, and that when he removed the mucous membrane satisfactorily that the horse did not become sound or greatly improved. It was a difficult operation and one that required great experience and practice to perform properly. He was

firmly convinced that the operation was a good one and had come to stay. In operating through the thyro-cricoid ligament without cutting any of the cartilages, Prof. Hobday had revolutionised the operation.

He would like to make a remark on the attitude that many of the profession had taken with regard to the operation. It was very unfair for a man who had never done the operation, or perhaps never seen it performed, to condemn it and say there was nothing in it. If a man couldn't do it, or hadn't the pluck to try it he should not adopt such a dog-in-the-manger attitude. By proceeding on such lines very little advance could be made in their profession. (Hear, hear.)

The Hon. Sec. pointed out that at the next meeting Mr. Craig would give them a paper on "Roaring and Whistling," and he desired the assistance of members to obtain the trachea and larynx of horses that had been said to make a noise during life. Mr. Watson said he was perfectly certain no paper could be suggested that would be productive of such spirited discussion as a paper on roaring and whistling, and he urged members to assist Mr. Craig to obtain the materials.

A vote of thanks to the President concluded the meeting.

Experiments on Living Animals.

The total number of experiments performed on living animals in England and Scotland during 1910 by persons licensed for that purpose was 95,731. A report issued by the Home Office [219] shows that this exceeds by 9,454 the number of experiments performed in 1909.

From a classification of the experiments it appears that the vast majority of them—namely, 90,792—were not of a serious character, and did not require the administration of anaesthetics, being attended by no considerable, if appreciable pain. The remainder, 4,939 in number, included 2,942 experiments carried out under the provision of the Act that the animal must be kept under an anaesthetic during the whole of the experiment, and must, if the pain is likely to continue after the effect of the anaesthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anaesthetic. In 1907 experiments the initial operations were performed under anaesthetics, from the influence of which the animals were allowed to recover. The operations are required to be performed antiseptically, so that the healing of the wounds may, as far as possible, take place without pain. With regard to the 90,792 experiments performed without anaesthetics they were mostly inoculations, but a few were feeding experiments, or the administration of various substances by the mouth or by inhalation, or the abstraction of blood by puncture or simple venesection. The number of experiments performed in the course of cancer investigations was 49,662.

The number of persons licensed to make the experiments was 542, but 147 of the licensees performed no experiments. Tables are published which, the report observes, afford evidence that the licences and certificates have been granted only on the recommendation of persons of high scientific standing, and also that the licensees are persons who, by training and education, are fitted to undertake experimental work and to profit by it.

A separate part of the report relates to Ireland, where there were 254 experiments, performed by 16 licensees. *The Times.*

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.	
	Outbreaks		Animals				(including Farcy)	Counties Affected				
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Anim-als.	Out-breaks	Anim-als.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.
Gt. BRITAIN. Week ended Aug. 5	11		12				3	3	London 3	2	46	466
Corresponding week in	1910	17	21	1	1	6	12			3	26	225
	1909	18	23			8	18			1	45	454
	1908	18	23			15	32				28	195
Total for 31 weeks, 1911	523		651	7	420	117	294			305	1614	18701
Corresponding period in	1910	906	1099	2	15	217	661			329	910	8239
	1909	825	1103			346	1294			464	1143	10186
	1908	698	940	3	112	505	1558			633	1373	7414

Board of Agriculture and Fisheries, August 8, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Aug. 5	...	...	...	...	...	...	...	1	1	4	77
Corresponding Week in												
1910	...	...	...	...	...	...	...	...	...	3	2	73
1909	...	...	...	...	...	...	...	...	1	...	2	11
1908	...	...	...	...	...	...	...	...	...	...	2	9
Total for 31 weeks, 1911	...	6	7	...	...	...	2	3	45	246	80	1459
Corresponding period in												
1910	...	5	8	...	...	...	1	2	43	344	67	1626
1909	...	3	8	...	...	...	...	...	62	305	75	1322
1908	...	5	8	...	...	...	...	...	26	271	126	2697

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 5, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Royal Commission on Mines.

THE HORSES AND PONIES.

At the 85th sitting of the Commission, on December 13th, 1910, evidence was given by Mr. THOMAS EMERSON FORSTER, managing-director of the Cowpen Coal Company, Limited, working collieries in the neighbourhood of Blyth, Northumberland, producing upwards of 1,000,000 tons per annum, and employing about 400 horses and ponies. Describing the system of keeping the horses, he said: The whole stud is under the charge of a properly qualified veterinary surgeon, who makes an examination of the underground stables and ponies at each pit once a month, and a special examination of each pony a fortnight later. He is responsible for the general welfare of the stud, and stops any pony from working if it is, in his opinion, unfit to do so, reports any irregularity, defects in stabling or food, suspected cases of cruelty, etc., to the resident manager. He also makes a special report once a fortnight to me, as managing-director, in which all cases of illness or accident are set out, as well as the result of his examination of the ponies. He attends at the colliery office with this report, the resident manager and underground managers being present at the same time, so that any points arising out of the report can be at once inquired into thoroughly. His report also contains detailed particulars of the amount of food-stuffs consumed at each colliery, showing the quantity used per animal. The purchases of food are specially made by me, and every care is taken to secure the best obtainable. At each colliery a head horsekeeper is responsible for the horsekeepers doing their duty, and seeing that the veterinary surgeon's

instructions are properly carried out. He reports to the manager of his particular pit all cases of injury or cruelty or unfit ponies. It is his duty to see that the proper quantity of food is sent down for the stud under his charge, and that it is properly divided out by the horsekeepers. Each horsekeeper has, on an average, about 20 ponies under his charge, the actual number varying according to the position of the stables. These men go down in time to see that the ponies are fed and harnessed before going to work, and, after clearing up the stables, return to the surface until they go down again to receive water, and to feed and clean the ponies on their return from work. They have to report any injury and stop any pony from going to work if they think it unfit, until the head horsekeeper or veterinary surgeon has examined it.

The shoeing is done by competent shoeing smiths, who attend the different stables every day and replace or refit shoes. The saddlery is kept up by a saddlery contractor at a fixed price per pony. It is therefore to his advantage to see that good material is used, and the leather part kept properly oiled, and, as rubbing against the roof wears the harness, he is not long in complaining to the manager should any occur. All collars are fitted to each pony.

The ponies get two meals a day, and food is kept at the flats and landings for them during their shift. The average pony of about 12 hands gets about 14lb. of food per day, consisting of chopped hay, maize, beans, and oats, mixed in proper proportions. The putting and driving ponies work 8 to 10 hours, and are never more than 11 hours a day out of the stables unless under very exceptional circumstances, and in that case, never twice running. A stock of spare ponies is kept at bank so

that any additional ponies can be supplied at once. All new ponies are kept at least a fortnight before being sent underground, in case of infection. Before starting work they have a preliminary training at bank, and for the first week or so underground they are under the special care of reliable men or older boys.

The system I have outlined is, generally speaking, the same as that in use at other collieries in the neighbourhood, and has been practised at the Cowpen Collieries for upwards of 40 years. I have heard the allegations of cruelty to pit ponies. You might get isolated cases where a driver, a boy probably, loses his temper. In our experience at Cowpen over the last six years we have only had five or six cases, and none of them what you might call of a serious nature. I think everybody is quite agreed that to overwork ponies is a bad policy. If they get out of condition, and get overworked, you cannot get the coal out, and if you do not get the coal out down goes your output and away goes your profit. I think it is recognised that to keep ponies in good condition, and to treat them well, is essentially necessary for good mining. The case which has been put forward in respect to the ill-treatment of ponies has been exaggerated so far as our district goes, decidedly. It does not apply at all to our district. Our practice is never to work any ponies double shifts. There are ponies, where they work eight-hour shifts, which require occasionally a double shift because it is found on a short shift they really get too fresh; but where a pony is worked double shift it is not systematic, it is only occasionally. As a rule our principle is never to work any ponies double shifts systematically at all. All the men have instructions if they want more ponies to ask for them, and they get them.

Mr. HENRY EUSTACE MITTON, mining agent for the Butterley Company, Limited, who are raising coal from 15 collieries situated in Nottinghamshire and Derbyshire with an annual output of over 1½ million tons, was the next witness. He was assistant general manager for the Tredegar Iron and Coal Company, Limited, Monmouthshire, from 1900 to 1905, and previous to that held positions as deputy and underground manager at collieries in Derbyshire connected with the Sheepbridge Coal and Iron Company, Limited. In the course of his evidence he said: I have reports from the veterinary surgeon who is in charge of the horses for the Company. We have 61 horses on the surface and 501 underground. He makes a regular examination of all the horses once a month, that is, he and his staff. Of course one veterinary surgeon cannot possibly do it all himself. They go through the stables and examine the horses, not taking each horse, but taking them out here and there generally and specially noting any horses to which their attention has been called by the ostler or the under-manager. I have discussed this matter with the veterinary surgeon, and he considers that if it is optional so that he could go and select any one anywhere, and he goes and picks out horses here and there, he can see generally the whole of the condition of the horses, and if any horse is suffering and his attention is called to it, see the under-manager of the mine who is responsible for the horses, or the under-manager could ask him specially to see those horses who were suffering during the month. The horsekeeper keeps an account of all the sick or injured horses during the month which the veterinary surgeon sees.

The maximum number of days worked by one colliery is 259½ per annum, and the minimum 167½ days. The average number of days worked by all the collieries is 214 per annum. The highest average hauled per day underground by one horse during the year ending March 31st, 1910, was 21½ tons; the lowest average was 6½; the average hauled per day underground by all the

horses was 13½ tons. The highest average number of miles per day travelled under load by one horse underground during the year was 13; the lowest average was 6; the average number of miles per day under load travelled by all underground horses during the year was 7·8.

As to the average quantity of food consumed per day, over all the collieries the corn worked out at 8½ lbs. per horse, and the hay at 13·9 lbs. The total number of horses killed by accident was 10 out of 501, which is the total number underground. That is 1·9 per cent. An instance of an accident is the case of where a horse is coming down with some tubs and the locker breaks, or the horse puts his foot on the rail and slips, and the weight of the tubs throws him forward and breaks his leg or cripples him in some manner. He is destroyed in the workings; right where the accident takes place. So that by "killed by accident" I mean killed or seriously disabled and having to be destroyed. Nearly 8 per cent. of horses die every year; that is including those sent out which are old and worn out. The average height underground of our horses is 13 hands 2 inches. We have 19 partly-blind horses, and 6 totally blind, out of the 500. The horses are purchased by myself, subject to being passed by an experienced man as to age and soundness. I have a man who is kept on purpose; he is a farm bailiff who is experienced in horses, and he is responsible to see that the horse is all right. I generally prefer the age of five. They are tested by the "mallein" test for glanders by the veterinary surgeon. Then they have a fortnight's trial after being sent to the pit. After test, if satisfactory, they are allotted to the various pits where required, and name, age, colour, height, etc., are entered in the register under a special number, so that a full record is kept of the horse. It is the custom after the horse has gone down to allow it 48 hours in the stable underground to get its eyesight and settle itself. We do not allow any horse to stay if he exhibits any signs of temper when he is first put in the pit, such as kicking or jibbing, or baulking. We send him out and have him replaced, but the percentage of horses that prove unfit for the work and have to be returned does not amount to more than 2 per cent.

All the underground stables are cleaned daily and the horses are kept in single stalls. In most cases those stalls are divided by brick walls with the ventilation passing over the top. The brick wall is not brought right up to the top of the roof; there is sufficient space allowed for the air to travel over the top. In some cases we have posts and timber instead of the brick wall. The horses are daily bedded with clean sawdust, and out of 15 stables underground we have five stables lit with electric light. In all the stables the horses have drinking troughs supplied with water either from the surface or upper measures, and these troughs are filled ready for the horses when they come in from work, and are left filled when the ostlers go out of the pit. We limewash the stables out from time to time, whenever the manager of the mine considers it necessary. The stables and ponies underground are examined every month by a veterinary surgeon, who is retained but not fully employed by the Company, and the veterinary surgeon sends direct to me a report at the beginning of every month, on every underground stable, drawing my attention to any horses or ponies who are suffering from accident or illness, and any other matters which he thinks should be rectified or improved. I write the manager of the colliery, and send him a copy of the veterinary surgeon's report if necessary.

I have read in the Press and elsewhere general complaints of the treatment of ponies in mines. I think that they are unfounded, as is shown by the anonymous letter which was sent to the Inspector with regard to some horses under the Butterley Company. The charge which was brought against the Butterley Company was

absolutely groundless, and if the letters that have appeared in the Press are of the same character, I do not consider they are worth very much. I should say that the ponies underground are better than the horses on the top, as they are not subject to the variations in the weather. We have more horses on top with colds than we have underground. The oldest pony that I can trace is one which has been underground more or less for 24 years. I have seen this pony myself at our Waingroves Colliery quite recently. The pony looks aged, but he certainly seems to have plenty of life in him yet. The average working life of the ponies is from six to seven years. That is including horses killed by accident and dying, but not including the horses which we returned as wasters—horses which kick. Each horse is re-registered under a number and name, and then a blank and so many lines left below the number, so that if the horse is No. 700 and he is called "Tom," and "Tom" dies, the horse that replaces him is called "Tom," and he is numbered 700. We always keep the same number and name. We find that much easier to trace in our books.

The Midland Coal Owners, whom I represent in my evidence as well as the Butterley Company, have had enquiries made, and out of 30 collieries 17 connected with the Association in Derbyshire and Nottinghamshire replied that they maintain a veterinary surgeon who makes a report on all ponies underground. There would be no objection to that report being seen by the Inspector of Mines. The Inspector examines all the ponies. Some ponies going out are without food and water for eight hours at the Kirkby Colliery. This has been in vogue for six months, and I should say, from the examination of those ponies, it is not too long for them to be without water. I have a strong objection to watering ponies in the workings of a mine. In watering in a mine orders may be given for troughs to be filled and tanks sent out, and the manager believes that the ponies are being watered and fed in the workings, the result is if a pony has to be kept back it is assumed he has been watered, and that there is no hardship for him to stay back a few hours. What I have found from past experience in watering in mines is that very often these tanks do not get into the right district, and the result is that some ponies get too much water and others none at all. It does not do a pony harm to be without water for eight hours, and we have adopted at the Butterley Colliery a system that every pony and horse has to come back to his stable every eight hours to have a feed and water. I consider that is a better system than relying on the tanks being sent to the district.—*The Iron and Coal Trades Review.*

Cattle that died from Fright.

At Haslingden County Court, on Thursday, 3rd inst., before Judge Hane Hamilton, John Ward, of Park Farm, Church, sued A. Graham and Sons, contractors, Huddersfield, for £67. Mr. Broadbent, of Blackburn, was for plaintiff, and Mr. J. Harrop Dransfield, of Huddersfield, barrister, was for the plaintiff.

Mr. Broadbent said the claim principally arose from the death of five cows alleged to have been caused by the shock of blasting operations whilst defendants were carrying out sewerage works through plaintiff's farm land. In the latter part of 1909 the Church Urban District Council decided to proceed with a somewhat large sewerage scheme, and they entered into negotiations with the owners of certain estates through which the pipe track would pass. Capt. Petre was owner and plaintiff was tenant of a farm through which the pipe track ran. Permission to go through the land was given on condition that any surface damage should be made good.

Mr. Dransfield contended that under the act any damage arising from the exercise of these powers must be made good by the urban authority, and that it was impossible to sue any person the urban authority employed.

Mr. Broadbent said defendants were not servants, but independent contractors. The local authority on Nov. 23rd, 1909, entered into a contract for the construction of a main sewer from Fox Street to the outfall sewerage works at Coppy Clough. The contractors (defendants) commenced work about the beginning of 1910. For a distance of 180 yards the line of pipes had at one part to pass through plaintiff's land at a distance of 50 to 100 yards from his farm buildings, and at another part to within a few yards of the shippin and outbuildings. In the early part of the operations it was found that the land on plaintiff's farm was almost entirely of a rocky nature close up to the surface. This necessitated blasting operations, which were commenced in January and continued to the middle of May.

Mr. Dransfield said plaintiff had got all he could from the District Council, and all that he was doing now was trying to get from defendants what he could not get from the Council.

Mr. Broadbent said the Council paid £33 for disturbance of the pipe track itself, and denied their liability for other damage. The blasting was within a few yards of plaintiff's shippin. Witnesses would say that houses half a mile away were shaken by the explosions. Whilst the blasting was going on plaintiff bought on different occasions five newly-calved cows. Within a few days of the first of these being brought to the shippin it became nervous, ceased to give milk, and sickened. Its ailment was a mystery to Mr. Allen, the veterinary surgeon, and after a few days the cow died, though it had no signs of any organic disease. What happened with this cow happened with three others. In May Mr. Allen was attending the fifth cow. Whilst he was examining it he heard the reports of blasting, and after asking what it was he saw that the noise caused the cattle to jump with fright, and concluded that each of the cows had died from this shock. Mr. Allen would tell the court what a nervous animal a cow was, and particularly a newly-calved cow. This last cow whilst ill, but not suffering from any organic disease, was sold to a butcher, who would say that the cow was absolutely sound. Some fifteen years ago the butchers and cattle dealers of Blackburn successfully objected against the "one o'clock gun" at Blackburn being fired on Wednesdays because of its effect on cows. Plaintiff claimed £10 for each of the five cows, but they were worth £15 each. In addition £17 was claimed for damages by the contractors erecting huts on the land, and by their workmen breaking down fences and hedges and trespassing. This again was an absurdly reasonable sum to claim.

Mr. B. S. Daniels, steward for Capt. Petre's estate, said there was blasting two or three times a week. Cross-examined, he said he never made any complaint as to the way the work was done.

After plaintiff had been called,

Mr. H. B. Allen, veterinary surgeon, described the explosion he heard as "terrific." He attributed the death of the cows to nervous exhaustion, caused by the shock of the explosions. A cow was the more frightened by a noise which to it was mysterious.

Cross-examined, he said he had not previously known a case of this kind. If Professor Owen Williams said it was an unheard of thing for a cow to die from shock, that would not affect his (witness's) opinion. A post-mortem examination would not have revealed anything in a nervous complaint. He would swear the cows did not die from blood poisoning.

Jacob Haworth, wholesale butcher, Church, who

bought the last of the cows, said it was perfectly sound.

Mr. Dransfield said the sewerage was done under the Public Health Act of 1875, and under that Act the Urban Council were responsible if any damage had been suffered. If it were otherwise the work of a contractor would be impossible. Defendants had done their work well.

Mr. Broadbent said notice of this plea should have been given if it were relied on.

His Honour said he would carry the case as far as he could, and if it became necessary the contractors and the Council must settle the matter between themselves.

Professor Owen Williams, of Liverpool University, veterinary surgeon to the King, said he had never heard of a cow dying from shock. He should say these cows died from blood poisoning. It was very common for cows after calving to be afflicted with blood poisoning, and in many cases the symptoms were extremely vague.

William Wood, surveyor for Church District Council, said whatever damage the contractors did the Council expected the contractors to pay. The Council said the contractors were liable for these cows if they died through the blasting.

George Hy. Graham, one of the defendant firm, said the explosion was simply a dull thud, with very little vibration.

Mr. Dransfield asked that the District Council should be joined as defendants.

His Honour said the matter might be left with him. The Council would only want to do its duty. At present he said plaintiff had suffered damage to the extent of £40. Defendants and the Council should settle the matter between them from now and next Court, and he would then enter judgment on what they arranged.

The effect of this is that plaintiff is awarded £40 damages, the defendants and Church District Council being left to apportion this amount.—*The Observer and Times*.

The London Horse-Omnibus.

The London General Omnibus Company are selling off horses at the rate of 100 a week, and expect by the end of next month to have taken off the road their remaining 94 horse-omnibuses, and by a few weeks later to have sold their last horses. "We have got 1,300 horses left," said an official of the company, "and we are now selling 200 of them every fortnight. Before each batch is sold we take a certain number of omnibuses off the roads, and the last will come off about the last week in September. We are turning out 20 new motor-omnibuses a week from our factory. We do not, however, want to increase our fleet by this number per week at this time of the year and through the autumn and winter, so we are replacing 10 of the old omnibuses by new ones of the improved silent type each week." The striking growth of the numbers of motor-omnibuses and the decrease in horse-drawn ones in the last nine years is shown by the following table, showing the numbers of vehicles of each kind licensed on the streets on January 1st each year:—

	Horse	Motor		Horse	Motor
1902	3,736	10	1907	2,964	783
1903	3,667	29	1908	2,557	1,205
1904	3,623	13	1909	2,155	1,133
1905	3,551	31	1910	1,771	1,180
1906	3,484	241			

No figures are available for the present year, but the number of motor-omnibuses is now approaching 1,500.

The omnibuses will be broken up and the stables closed as the horses are sold.

Veterinary Inspection of Horses.

Circumstances are gradually forcing the question of veterinary inspection of horses at shows to the front. At the Clydesdale Horse Society Council meeting in the Inverness showyard last week, a communication was read from the Board of Agriculture asking whether the society would fall in with the suggestion of the Shire Horse Society and publish the list of stallions on the Government register in its studbook annually. An even more pressing phase of the same subject was raised by Professor McCall. Under the rules of the Victorian Government, all horses imported into Victoria from Scotland must be certified sound by the Highland Society or the Glasgow Agricultural Society. Neither of these societies has a veterinary inspection at its show. Although Principal McCall passed the horse over which the difficulty has arisen, his certificate has been refused, as it is not the certificate of a society, but of an individual veterinary officer. This raises the whole question of inspection in a rather acute form. It almost looks as if the Victorian authorities were trying to force the pace and impose public inspection at shows whether it is wanted in this country or not.

A Broken Pole-axe.—Hull Butcher and Employee fined.

At the Hull Police Court, on 19th ult., Ted Leathery butcher, was summoned for "not using, while slaughtering a blue roan heifer, such instruments, and not taking such precautions in the method of slaughtering, as might be requisite to secure the infliction of as little pain and suffering as practicable." George Ernest Coates, butcher, of Hull, who employed Leathery, was summoned for aiding and abetting his employee.

The evidence for the prosecution was that the beast was struck six times with the poleaxe before it was stunned. It was examined by a Corporation inspector, who found a piece of skin had been gouged out above the eye. The axe used by Leathery was found to be of little use, as half the punch was broken off and the shaft was insecure.

Mr. F. Payne, for the defence, intimated that the axe gave way at the first blow, and they had to go on and do the best they could with a broken axe.

The Magistrate remarked that if it were proved that there was only one axe in the slaughterhouse he would convict.

Mr. Payne: Does your Worship mean that there must be two axes in all slaughterhouses?

The Magistrate: Yes, I shall convict every time if there are not.

Mr. Payne said that he admitted there was only one axe. He said that the animal was bought by Mr. Ingram, and was to be slaughtered in the defendant's Coates' yard. Ingram struck the first blow, which brought the animal to its knees. Then the axe gave way. They could not in common humanity stop, and Leathery continued until the beast was killed. That, he contended, was the proper thing to do.—The Magistrate agreed.

Mr. Payne said that Coates was charged with aiding and abetting Leathery, whose action had been admitted to be one of common humanity.

The Magistrate remarked that he would convict. He considered that proper precautions had not been taken when only one axe, and that a defective one, was provided. Coates was fined £5 and £1 15s. costs, or two months, and Leathery £1, including costs, or 14 days.—*Meat Trades' Journal*.

London's Motor 'Buses.

The London General Omnibus Company were obliged to withdraw a third of the 'buses yesterday (Wednesday) afternoon, and if the dock strike continues and further supplies of fuel are not forthcoming, they will be forced to withdraw nearly as many more to-day. Even with the intended withdrawals the existing supply of petrol will not last more than three days. The company controls 2,000 vehicles, and there is a very serious likelihood of the men being thrown out of employment.—*The Daily Telegraph*.

Feeding of Horses in Russia.

Some interesting details relating to the diet and food of horses in Russia are given by the United States Consul in Moscow. Oats, he says, constitute three-fourths of the food upon which the Russian horse must exist during the twelve months of the year. Among the upper classes 12lb. or 14lb. of hay are fed daily to the carriage and racehorses, in addition to the 20 quarts of oats that are thought necessary for a horse during the 24 hours. This hay consists principally of timothy in Finland and the central and southern portions of Russia. As the result of a light hay diet, Russian horses are remarkably free from the heaves, though a more serious trouble originates from a continuous diet of oats, namely, cracked skins and heels, with open sores. City horses never taste a spear of green grass, but appear to keep in fairly good condition with practically no attention from the grooms. They occasionally are given carrots, but this does not apply to the average work horse, driven at all times of day and night, and subjected to Russian winters. His endurance is one of the marvels of the country. The feeding of corn, mixed foods, or prepared diets is unknown in Russia except among the racing fraternity, who have adopted American ideas from the trainers brought over years ago from the United States.

The Exportation of Horses.

During last year 9,915 horses were examined at City wharves before being exported abroad. Of these 211 were rejected. In the course of the year an Act was passed requiring the Board of Agriculture to appoint veterinary inspectors who should examine every horse proposed to be exported to the Netherlands and Belgium, and grant a "permit" for those found suitable for shipment. Power was given to charge for so doing 2/6 per horse. The City Corporation approached the Board with a view to the allocation of a proportion of the fees so received in relief of the expenses incurred by them as the local authority in enforcing the Act, but were informed that it was not within the power of the Board to comply with the suggestion.—*The Times*.

Leaving Carcasses Unburied.

At Dumfries a farmer was recently charged with having permitted the carcasses of three sheep and twelve lambs to remain unburied in fields on his farm, to which dogs could gain access, contrary to Section 6 of the Dogs Act, 1906. On behalf of accused it was pleaded that he had simply been following the usual practice of the district at lambing time. In ordinary circumstances when a sheep died the practice was to skin it and bury the carcass, but that could not be done at lambing time, because if men were engaged skinning sheep and afterwards worked among lambing ewes, the ewes were liable to contract inflammation. The practice was to leave the dead sheep lying for a few days, when the wool could be pulled off and saved. In the case of lambs the custom

was to take off their skins and put these on other lambs, so that the mothers of the dead lambs might look after them as their own. The Sheriff said it was a very objectionable practice. It might be that meddling with dead sheep was a very bad thing for those attending to the lambing, but the answer to that was that someone else should be got to see to the dead sheep. In imposing a fine of £1, he hoped it would be taken as a warning against the general practice.

Plucking Live Geese.

Though scarcely within the scope of this department of the *Gazette* we are asked for an opinion on the subject matter of the plucking of live geese. It is to our minds just a work of necessity, and as such is justifiable be it cruel or otherwise. It has been proved that geese (domestic geese that is to say) grow coarse, become verminous, thin, scraggy, and unhealthy if left unplucked and, *ergo*, useless. Let the critics think the matter out calmly, and they must admit that such a process is every bit as necessary as the castrating of animals not intended for stud purposes, the dehorning of cattle, or any other operation severe or simple that often has to be done on some animal or other. It seems to us many folks dub anything "cruel" that happens to be "painful."—*The Farmers' Gazette* (Dublin).

The Dublin Horse Show.

The forty-fourth annual horse show of the Royal Dublin Society is announced to take place at Ballsbridge on Tuesday, the 22nd August, and three following days. Valuable money prizes, cups, etc., are offered for thoroughbred stallions, brood mares, and yearlings, hunters, riding cobs and ponies, and harness horses. Two special jumping competitions over the course are provided—one for British military officers quartered in Ireland, and the other for naval and military officers of any nationality.

Personal.

Mr. J. BIRKENSHAW IDLE, M.R.C.V.S., Ridding Mount, Harrogate, a graduate from the Royal (Dick) College, Edinburgh, has been selected by the B.S.A. Co., to fill an appointment in Africa. Mr. Idle sails from London for Salisbury, Rhodesia, on Sept. 2nd.

OBITUARY.

ERNEST ASHWORTH, M.R.C.V.S., Helmschore, Manchester
Graduated, New, Edin : May, 1900.

The interment took place at the family vault at Ramsbottom on Saturday, July 29th. The deceased was 32 years of age, and served in the South African War. He was brother to the late Mr. A. E. Ashworth, manager of James Barlow and Sons, of Sunnysbank and Albert Mills, Helmschore, and President of Helmschore Conservative Club. He leaves a widow and three children.

CHAS. K. DOBSON, M.R.C.V.S., Holbeach, Lincs.

• Lond : April, 1888.

Death occurred on July 22nd from sarcoma of neck. Aged 44 years.

WALTER HENRY CAMPSALL, M.R.C.V.S., Hartington, Derby.
Edin : Dec., 1896.

Mr. Campsall died on Aug. 4th, at his residence, from, cardiac failure, at the age of 42 years.

MASON.—On August 3rd, at Grafton House, Leeds, in her 45th year, Edith C., wife of A. W. Mason, F.R.C.V.S. Interment at Lawnswood Cemetery, on Saturday, Aug. 5.

CORRESPONDENCE.

PROFESSIONAL FEES.

Sir,

I think it only right to say that since the appearance of my letter in *The Veterinary Record*, I have had a communication from the firm of whose fees I complained, saying that I was in error about the charge of 4/6 being their fee for treating a cat for a week in their hospital, and that their fee was 5/- per week. In justice to myself, however, I should like to add that the lesser sum was given me twice, on the second occasion by one of the members of the firm in question.

In reply to "*Vis unita fortior*," perhaps my letter was not very explicit; so far from gaining a client, I lost one. A former client had evidently been scared by my fee of 10/6 a week, and had made enquiries of the firm in question as to their fees, and found that this was less than half mine. He then had a cat treated by them, and when summoned by me in the County Court for payment of my account entered the defence that my fees were exorbitant, that he could get the same hospital treatment for less than half my fee. Naturally I questioned this, when he produced the receipt authenticating his statement.

To the London veterinary surgeons who have written me suggesting a round table conference to discuss the fee question, I should like to say that for the next two months London veterinary surgeons will probably be pretty much scattered, but that if after Michaelmas, they are still in the same mind, I should be pleased to assist in making arrangements for such a meeting.—Yours, etc.,

H. J. R. POPE, M.R.C.V.S.

Sir,

It is possible that the public discussion of this subject in your columns may do some little good, provided that such discussion is conducted civilly and reasonably. I make this proviso because, though the first of the two letters you have published was quite unobjectionable in this respect, the tone of the second prompts the reflection that any such discussion might easily degenerate into a series of anonymous ebullitions of spite and stupidity directed against one successful firm. I, however, who am a "mere rural person," and do not keep an infirmary at all, only wish to call attention to one aspect of the question, which should not, I think, be disregarded. This question of fees for the keep and treatment of dogs and cats resembles many other subjects connected with veterinary work and remuneration in one respect—that, though it is partly a professional question, there is also a considerable element of trade in it. That being so, we ought fairly to consider the actual monetary cost to the veterinary surgeon of keeping a canine or feline patient.

The just and reasonable weekly terms for the keep and treatment of cats are mentioned by your two correspondents; and I venture to suggest that such questions as the following deserve consideration in connection with any estimate of these. What is the average cost of a cat's food per week, especially of a confined one taking no exercise? What is the cost of a cat's house-room?—and here it should be remembered that a cat's cage is generally an inexpensive and fairly durable article of furniture, and that a goodly number of such cages can be superposed in a room which, if unfurnished, would only command a very low rent indeed. What fraction of an infirmary attendant's weekly wage should be put down to the account of an individual cat?—one attendant can look after a good many. All these points, and other similar ones, should be, and no doubt are considered by the men who keep canine and feline infirmaries, but there seems to be a conspiracy of silence regarding their details. It would be a new thing if the results of a few calculations of this sort were made public; but I fancy the novelty might prove an instructive one.

There is certainly a great difference between a weekly charge of 4/6 per week, and a minimum one of 10/6. I

know that the latter is quite the usual one in the West End of London, and a very common one elsewhere—indeed, I think I could name provincial veterinary surgeons who habitually charge more. But is not the disparity capable of two interpretations? One, of course, is that 4/6 per week is "ridiculous." Another is that veterinary charges in general for keep and treatment of small animals in infirmaries are unreasonably and extortionately high. Perhaps some of your readers who themselves keep infirmaries will write and try to disabuse my mind of the latter impression.—Yours faithfully,

"RUSTICUS."

MR. KIRK'S APPEAL CASE.

Sir,

May I ask your courtesy to allow me to bring to the notice of your readers the fund which has been organised to provide the sinews of war in defending the veterinary surgeons' right to use the College crest.

As most members of the profession are aware, Mr. William Kirk, M.R.C.V.S., has successfully proved to the satisfaction of Mr. Curtis Bennett, the Bow Street magistrate, that the profession has this right. Against that decision the London County Council is appealing in the High Court, and to defend that action money will be required.

Since this is a matter affecting a large number of men in the profession, it has been felt to be unfair to let Mr. Kirk bear the whole cost. Those members who use the crest will, if the action is undefended, have to pay for its use annually. If they subscribe to an adequate defence fund, it is hoped our right will be established once for all.

An account has been opened at Parr's Bank, Camden Town Branch, and cheques should be made payable to the undersigned there. "To help promptly is to help twice."—Yours faithfully,

HAROLD A. WOODRUFF.

Royal Veterinary College, Camden Town.

August 9th.

FLIES.

Sir,

Does any veterinary surgeon know of a good dressing to ward off flies from horses and cattle. Country practitioner would be very grateful for any hints.—Yours, etc.,

A. B. C.

RE SWINE FEVER.

Sir,

I have received several congratulations upon what I have tried to fathom respecting this disease, and beg to tender my best thanks. The subject is open to criticism, so my suggestion on the eradication of this disease are:

- (1) That the Board of Agriculture should see that boars and sows are not kept too long for breeding.
- (2) That piggeries should be better constructed as regards drainage, air spaces, etc., and pigs not overcrowded.
- (3) That market pens should be made impervious barriers, and no contact allowed between each lots.
- (4) That unhealthy looking pigs should not be exposed for sale.
- (5) The Board of Agriculture should send delegates to other countries to see that the waste of pig food in England which, if mixed half weight for weight with meal, would produce bacon and pork enough for our population if properly collected. Holland can produce pork profitably, and send it to England below 6d. per lb. Why should not we do so?—Yours, etc.,

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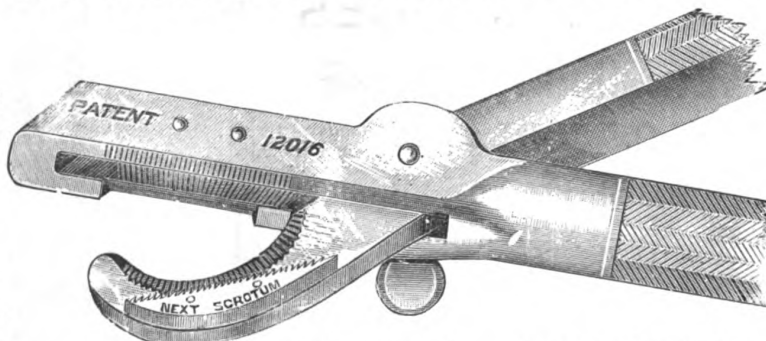
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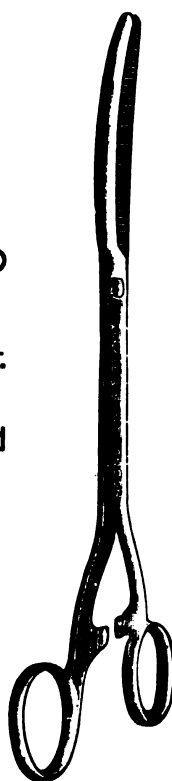


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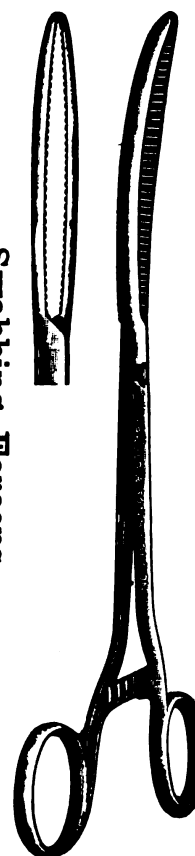


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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1206.

AUGUST 19, 1911.

VOL. XXIV.

THE KENNEL CLUB AND THE VETERINARY PROFESSION.

A certain amount of doubt is always attached to an uncorroborated assertion appearing in a single newspaper, especially if its details are vaguely stated. We cannot, therefore, accept the account which we print elsewhere of the Kennel Club Committee's action towards two veterinary surgeons without some reservations: but it certainly looks, upon the face of it, as if the veterinary profession had received a great and unjustifiable slight. So far as we can gather the facts, it seems that two veterinary surgeons at a recent large London dog show rejected two dogs belonging to one kennel on account of skin disease, that the exhibitor complained to the Kennel Club with respect to one dog only, and that the Kennel Club Committee—apparently not choosing to recognise the obvious bearing of the second dog upon the case—upheld the complaint. We do not know the Committee's reasons, but we may suspect that the personal influence of the exhibitor or his friends was not without weight.

Our contemporary suggests that large dog shows will become a "hotbed of canine disease" unless the Kennel Club Committee support the decisions of veterinary surgeons. Large dog shows, crowded as they are with dogs and dog fanciers from infected kennels, are really hotbeds of infection already; but they would certainly become much worse were visibly affected or suspicious dogs allowed to be benched. Veterinary surgeons alone have prevented that in the past, and their task has been neither an easy nor a pleasant one. It is responsible and difficult at the best; it may mean offending a client; and it is often rendered more harassing by the voluble abuse of disappointed exhibitors, perhaps delivered before a large audience.

If, in addition to all these disadvantages, a veterinary surgeon has to work under the constant fear of having his decisions over-ruled by the Kennel Club, the result will probably be that many practitioners will refuse to act at shows at all, and that those who do act will be afraid to inspect rigidly. For this reason the Kennel Club should uphold the decisions of veterinary surgeons unless the clearest proof is adduced that a rejection has been inexcusable. No evidence of any such proof appears in the case before us; all the evidence, on the contrary, suggests that the rejection was more than justifiable.

THE "NATIONAL" EXCURSION.

We omitted to acknowledge last week the source of the two photographs of the "National" excursionists which we reproduced. The small group of teachers and examiners at Llanberis was taken by Prof. J. D. Stewart, of Sydney University, N.S.W. The larger group at Beddegelert was taken by Mr. R. S. Rowlands, of Abergelle, President of the North Wales V.M.A. To both these gentlemen we offer our hearty, if somewhat belated, thanks for their kindness.

MORTALITY AMONG PIGS.

During the last nine months one hundred dead pigs have been reported to the City veterinary officials. A post-mortem examination is made in each instance, and it is of some interest to note the ailments and diseases which account for this mortality.

It is the exception to find that the pig owner has called in veterinary aid, and the remedies and various concoctions used in the treatment of porcine ailments would make the subject for an interesting and amusing article. For example, the following drugs appear to be favourites in this district: comfrey, Spanish juice, antimony, black sulphur, syrup of poppies, Beecham's pills, chamomile tea, and castor oil.

In the majority of cases the piggeries are badly constructed, damp, and not provided with adequate drainage. Many folks seem to abhor the use of whitewash, and the writer feels confident that if more lime were used about piggeries there would be less disease. It is also advisable that pig owners should thoroughly disinfect the premises before the introduction of fresh stock.

At this time of the year flies are very troublesome while opening carcasses, and the writer usually smears his arms and hands with an emulsion of sassafras oil and olive oil, which also has the advantage of preventing the nauseating smell of "dead pig" adhering to one's hands.

The pigs examined post-mortem were of all ages and sizes, but the majority could be classed as "wrecklings" or "Rutlands." The lesions found were as follows:

Tuberculosis	22	Strangulated hernia	2
Pneumonia	16	Anthrax	2
Enteritis	7	Pleurisy	2
Swine erysipelas	6	Gastritis	2
Swine fever	5	Endocarditis	1
Suffocation	5	Bacterial necrosis	1
Ascites	4	Metritis	1
Pulmonary congestion	3	Epilepsy	1
Cirrhosis of liver	3	Peritonitis	1
Verminous bronchitis	3	Hydrothorax	1
Internal hæmorrhage	3	Broken back	1
Pericarditis	3	Constipation	1
Rickets	3	Liver disease	1

Tuberculosis was generally found to be advanced. It is most seen where the pigs have been fed on the third stomachs of diseased cattle—care not having been taken in the selection of the food. One frequently has occasion to examine post-mortem every member of a litter, and when tuberculosis affects all, the sow's mammary gland should be carefully inspected.

Pneumonia is usually of the lobar type, and the writer is inclined to consider that feeding pigs on steaming food affects the constitution, and the mischief appears to be done when the animal returns to its damp bed.

Enteritis was in most cases associated with the presence in large numbers of *Ascaris suillæ*.

Anthrax. One of the cases examined by Mr. J. Spruell, D.V.S.M. (VICT.) possessed a spleen measuring 38½ inches in length. From external examination there was nothing in the two cases to make one suspect anthrax.

Broken back. In this case the 13th thoracic vertebra was found smashed.

Bacterial necrosis was found in the liver of a sucking pig. The organ was studded with degenerating centres from which films were made which aided diagnosis.

Liver disease. Under this heading I have placed one pig. Attached to the liver, stomach, spleen, and mesentery were very numerous yellow, pea-like sacs of pus. A medical pathologist who was interested in this case diagnosed the condition as portal pyæmia. Films were made and examined for the Ray fungus and Tubercle bacillus, but with negative results. It is probable that these small sacs were degenerated hydatid cysts.

W. J. YOUNG, F.R.C.V.S., D.V.S.M. (VICT.)
Sheffield.

VOLVULUS, TWIST OF THE SMALL INTESTINE.

The accompanying photo, taken by my friend Mr. Jos. Pattinson, chemist, of Aspatia, is an excellent representation of volvulus or twist of the ileum portion of the small intestine of a 15-year-old Clydesdale mare. The animal had been a very successful breeder and a good worker, and was never known to have a day's sickness all her life.

The case occurred on the 24th June last; the mare had been at work the day before and was turned out into the grazing pasture for the night along with the other horses, she was brought in about 6 a.m. and had her usual feed of oats which she cleared up; about an hour after she was noticed to be pained, lying down and getting up. Her owner, Mr. T. Bouch, of The Sun Inn, Aspatia, thinking she had an attack of colic, gave her a colic draught which he had by him, but this gave no relief, other quack nostrums were used but without any effect, and at 1 p.m. I was called in, and found the poor brute in a very bad form, black wet with perspiration, which was running down her face and neck and over her hoofs, I watched her for some little time and then made a careful examination. Exploring the rectum with the hand, I found the large bowel displaced as it were, and pressed back into the pelvic cavity, the mare strained very hard against me on introducing my hand into the bowel; she was suffering great pain, getting up and down, rolling about and on to her back, and in this latter attitude she seemed to feel a little relief.

I may here state that whenever I have a bowel case, and should the patient roll on to the back with the legs up and against the wall, no matter what may be the position, I leave it alone as long as it keeps quiet and easy, and do not allow anyone to interfere, as I have a fancy that if there be a twist, loop or invagination of the bowel it will at times right itself by the animal balancing itself on its back and thus lying maybe for twenty minutes or even up to two hours, after which the beast will roll on to its side, get up, give itself a shake, and commence to eat. I have had cases that have recovered suddenly in this manner after so comporting themselves, which leads me to press this view. There is, however, nothing to equal abdominal trouble for the post-mortem to reveal "the errors of diagnosis."

I do not favour the idea that twists in the bowels of the horse are caused by rolling about; not all the rolling and tumbling in the world, at least to my mind, could produce a twist like the one in the photo. My idea is that they are formed by excessive spasm of the longitudinal and circular coats of the walls of the intestine pulling against each other as it were, accompanied by increased peristaltic action of the bowel, and when I meet with an acute attack of colic in the horse, I have the patient put in a field if possible and allow it to have its full swing at rolling.

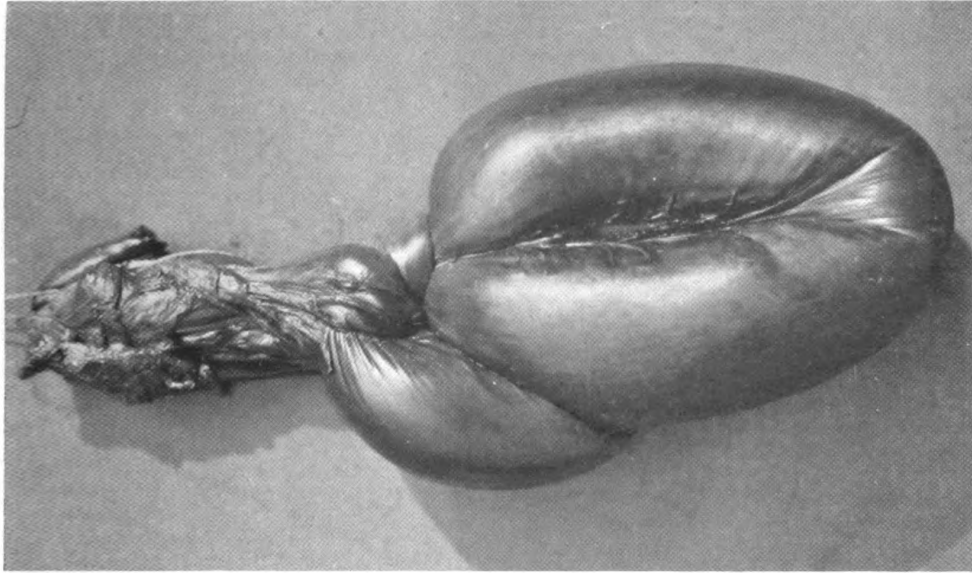
The mare in question, however, although frequently on her back, had very short intervals of rest, the most prominent symptom being that when the poor brute was on her feet she would set her hind legs back and apart, stick up her tail, and throw up her head as if about to urinate. I need not detail the treatment, suffice to say that sedatives per the mouth, skin, and rectum were used, the tympany that was present was liberated twice by the trocar and canula, but without any lasting effect. I told the owner early on that I was afraid the case would prove fatal, and that I suspected the mare was suffering from a twist, or knot, or some other lesion of the bowel, and at 10 p.m. the pulse began to run down and the mare commenced to wander round and round the box, stopping now and again, in fact presenting all the emblems of death, amaurotic eyes, heavy sighing, anxious expression on the face, cold clammy sweat and muscular tremblings. I left about midnight, and the mare succumbed at 2 a.m. The twist is so peculiar I thought it might interest some of the readers of *The Record* if you thought it worthy of production.

HENRY THOMPSON, M.R.C.V.S.

MONSTROSITY.

Now that I have pencil in hand I may as well relate and send photo of a case of *Veterinary Obstetrics*, viz., a double-headed calf, *Dicephalus bi atlanticus* (Fleming), with twisted or doubled spine.

On Wednesday, the 2nd inst., we were called to a cow that was unable to calve, the owner, a man who does a little veterinary work himself, had examined the animal and found that the calf had



VOLVULUS IN A CLYDESDALE MARE.



DICEPHALUS CALF.

Notes by H. Thompson, M.R.C.V.S.

two heads joined together, and he could also find two feet. I accompanied my son, who now does most of this class of work, and ascertained that the calf was a monstrosity (see photo), not only had it two heads but the limbs were crooked and malformed, and the spine doubled upon itself. Ropes were put round the two fore fetlocks, and as luck would have it the cow was well relaxed and roomy, a strong rope was next put round the neck, passing over both heads, and another strong cord was fixed over the left hand head facing, as per photo, behind one ear and through the mouth; when this had been accomplished, the two feet were pressed back and down below the brim of the pelvic bones of the cow and traction laid on the ropes round the neck and head, but the feet rushed forward into the pelvic cavity, which was owing to their stiffness and malformation. As delivery did not seem possible this way, the heads were pressed back again and one of the legs pulled forward and as far out of the passage as possible, skinned, and pulled off by the shoulder, and the other fore leg treated in a like manner, and after the removal of the fore extremities the heads were again brought into the passage and heavy traction applied, the while manipulating with the hands the left hand head was delivered; there was nothing now but strong steady pulling when all of a sudden a loud crack was heard and the foetus came away without any more trouble. On examining the calf afterwards I found that the back was broken in two, behind the shoulder, which accounted for the loud crack. The spine had been doubled on itself, with the malformed hind legs under the body, whilst the walls of the abdomen were open and the intestines outside.

The cow, which is a cross-bred shorthorn, stood the strain splendidly, and after lying for about a quarter of an hour, during which time she drank a pailful of cold water, she got up and commenced to eat some cut green corn, and I am pleased to say she is now going on alright, feeding, chewing the cud, and milking well. The operation occupied about one and a half hours. (Photo by Mr. J. Pattinson).

HENRY THOMPSON, M.R.C.V.S.

Aspatia.

ABSTRACTS FROM FOREIGN JOURNALS.

A CONTRIBUTION TO THE PATHOLOGY OF THE BURSA OF FABRICIUS.

The bursa or pouch of Fabricius is a single organ, which is present in nearly all birds, and lies outside the peritoneal sac between the rectum and the vertebral column. It encloses a cavity, which opens into the cloaca by means of a small canal. In aged birds the organ gradually diminishes in size, till finally it quite disappears. The physiology of the bursa of Fabricius is not explained, and very little has been observed of pathological conditions affecting it. Schautyr and Paukul, who now record

three cases, remark that, so far as they are aware, only two instances of disease of the bursa have hitherto been recorded. Both these were instances of hydropsy of the organ.

The authors' first case was in a hen, whose age was not known, and in whom retention of an egg was diagnosed. During an attempt to relieve this by means of gentle pressure upon the abdominal wall, a bladder-like body of the size of a walnut, and covered with mucous membrane, suddenly issued from the anus. This proved to be an eversion of the pouch of Fabricius, which had arisen from the increase of abdominal pressure upon the organ resulting from manipulation. After the egg had been removed, the pouch was replaced in its normal position by means of pressure with the finger.

The second case was of a seven months old hen, which was said to have laid no eggs for some days, and in which the mucous membrane of the cloaca in the immediate vicinity of the anus was violently reddened. Palpation of the abdominal wall revealed the existence of a body the size of a hen's egg in the region of the pouch of Fabricius. The canal leading from the upper wall of the cloaca into the cavity of the pouch was dilated a little, and the little finger, when introduced into this, encountered a firm mass which was apparently a neoplasm. Small particles of this mass were brought to the air; they were yellowish-grey in colour and granular in appearance, and were easily crumbled between the fingers.

The hen was killed: and a post-mortem examination revealed all the organs normal, with the exception of the pouch of Fabricius. This was round-oval in shape and 2 inches by 1.5th inch in size. The surface was uneven in places, and partially united with the surrounding tissue. The walls ranged from 1-12th inch to 1-5th inch in thickness. The cavity contained a mass consisting of spongy lumps of a yellowish-grey colour, the whole being almost completely separated from the inner surface of the wall of the pouch, and thus easily detached from it. The mass showed, upon section, a more or less clearly apparent concentric structure of its more superficial portions, as if they were composed of single, thin, cup-shaped layers. The central portions, however, had a uniform finely granular appearance.

The authors give a somewhat detailed description of the results they obtained histologically, from which it appeared that the condition was a fibrinous-purulent inflammation of the pouch of Fabricius, with thickening of its walls by an increase of their connective tissue. Staphylococci were found within the mass composing the contents of the pouch; and in all probability the condition had arisen as a result of an infection from the cloaca through the canal connecting it with the pouch.

The third case was also that of a hen, the age of which is not stated. The history was similar to that of the previous case—viz., the retention of the egg; and palpation revealed the presence of a painless, oval, easily movable swelling above the cloaca and the rectum. The situation corresponded to the normal position of the pouch of Fabricius, and a

pathological alteration of this organ was therefore suspected.

The hen was killed, and subjected to post-mortem examination, which revealed no lesions in any organ except the pouch of Fabricius. This had a roundish-oval shape and was surrounded by loose fatty and connective tissue. It was 1-4th inch by 1, 2-5th in size. The surface was smooth, and in parts slightly uneven. In the place of the cavity of the bursa, its interior was completely filled with a tissue of yellowish-grey colour, which blended with the bursal wall without any indication of a boundary between them.

In this case, also, the authors enter, with some detail into the results of their histological examination. This showed that the mass occupying the cavity of the pouch of Fabricius consisted of elements which are characteristic of the lymphatic tissue, viz., lymphocytes and a reticulum. The reticulum was traversed by thin-walled injected vessels, and showed hæmorrhagic infiltrations in places; here and there, also, small necrotic centres were seen. The muscular portion of the wall of the pouch was still demonstrable; but nothing remained of the mucous membrane, which had been completely suppressed and atrophied by the newly-formed lymphatic tissue. The authors regard the condition as a hyperplasia of the follicles which are normally situated in the wall of the pouch of Fabricius.—(*Zeitschrift für Wissenschaftliche und Praktische Veterinarmedicin.*)

W. R. C.

SOME ATYPICAL CASES OF RABIES.

Owing to the extreme practical importance of the consideration of atypical symptoms in canine rabies, I am tempted to record the following cases:—

1. A pointer dog, 12 years old, went out with its mistress on the 4th May; on the 5th there was loss of appetite, vomiting, trembling of the feet; on the 6th and 7th the vomiting continued, and a flow of saliva appeared, food forcibly given was swallowed, the dog could not control the movement of his feet, going round and round for a few steps he fell to the right. On the 8th I was called in, and as I knew its name I called the dog as I entered the room, it approached me lame on its right legs, wagged its tail, and fell, but soon got up again, it went on in a semi-circle but fell after a few steps, again to the right. There was hemiplegia affecting both right legs and the lower eyelid, the eye appearing abnormally large in consequence, the neck was flexed to the right, the tongue was not under control and hung out, pressed by the teeth; and evidently on account of hemiplegia of the pharynx swallowing was difficult, the breathing was hoarse. On the 9th the dog was down, the paralysis had extended to the left legs and jaw which could not be closed, the left eye was normal, the dog tried to rise but could not. When spoken to caressingly it weakly wagged its tail, it trembled a great deal at a sudden noise or unexpected touch.

While being turned over it scratched the arm of its mistress. It could neither bark nor growl, it remained conscious till the night of the 12th, but at four in the morning it was dead.

Post-mortem examination showed empty stomach with patches of congestion, acute congestion of the brain.

A control rabbit inoculated with brain died of typical rabies in fifteen days.

2. Another case of rabies, the paralytic stage of which commenced as hemiplegia. The dog was brought to me as the owner thought it had had a blow on the head, but he did not know when or how, as it had not left the house during the previous day; when I approached the dog it attempted to bite me, although the owner assured me it was not at all savage: the head was turned to the right, and there was a swelling on the left side of the neck, the ear hung down and was powerless, the eye was widely open on account of paralysis of the lower eyelid, and the temporal muscle was swollen as if it had had a sharp blow, but was quite painless to the touch, the neck returned to the right if it was forcibly straightened. As the dog had been unwell for some days—restlessness, want of appetite, etc., I suspected rabies, and advised the dog being isolated, and waited till the next day. In the evening there was paralysis of the hind legs, and later also of the fore legs, complete loss of consciousness, a hoarse bark, biting at the breast walls, etc., and death in the morning.

Post-mortem examination showed the stomach containing splinters, straw, etc., hæmorrhagic patches, full bladder, the swollen parts of the head and neck not congested.

This was the second case of rabies I had seen which commenced with hemiplegia, and the grave significance of this symptom and the absence of others mentioned in the books at my disposal, causes me to call attention to it.

3. Pointer dog, sagacious and well trained, shivered as if cold after passing a cold night out of doors; there was pain in the chest, cough, painful swallowing, flow of saliva, and groaning; during the day the jaw dropped, and there was a thick discharge from the eyes, the pain in the chest decreased, but the jaw was paralysed till the seventh day of the illness, when the dog again was able to close it and there was no other paralysis. During the night of the eighth day the dog as usual woke its master and asked to be let out, it walked out easily and after relieving itself came in again, but in the morning there was tremor of the feet, and soon the dog lost consciousness, paralysis quickly seized the hind legs, and in the evening the front ones also. The dog was tied in a room, and it continually barked and howled. It bit every available object with fury, when a stick was offered to it it furiously snapped at it and broke it to splinters; this furious fit continued from the morning to the night of the ninth day, when it was destroyed as undoubtedly rabid.

I have noticed other cases where the paralysis has not commenced in the jaw and where the power of the jaw has returned. Many authors state that

the non-furious stage of rabies does not continue longer than two to three days, but my experience is otherwise, in my cases it has continued seven to eight days when the furious stage seldom reaches its limit.

I must explain that I am speaking only of those cases established by post-mortem examination and control inoculation; possibly age, size, and place of inoculation modify the conditions, yet I have never seen typical cases of rabies in which the non-furious stage has exceeded five days, and I have seen a two-month puppy dead in two days.

I have noted cases where the incubation period has exceeded 12 days, and in one a big St. Bernard it extended over four months.

For some years I have examined all dogs which have bitten human beings, and last year there was a severe outbreak of rabies in the town.

N. Foss, Govt. V.S., Ufa, Russia.

(From the Author's original esperanto.)

NUT IN A DOG'S INTESTINES.

A small pet dog had suffered for two months from indigestion (vomiting, diarrhoea, loss of appetite, etc.). Then acute vomiting, accompanied by diarrhoea and pain, set in. The owner, a doctor, gave castor oil, which was returned after a few hours, also the water already drunk.

Diagnosis, stoppage of the intestine. Treatment primarily directed to stopping the vomiting. Foss gave opium, and later calomel 0.08 (1½ gr. about) and an enema. The opium stopped the vomiting, and in the morning with the clyster came away a nut in its shell enlarged. The doctor and his wife remembered that the dog while playing two months before had swallowed a nut, which they thought it had passed long ago.

The dog made a good recovery.

(From the Russian Author's original esperanto.)
F. E. P.

NORTH OF IRELAND VETERINARY MEDICAL ASSOCIATION.

The usual quarterly meeting of this Association was held in Deveney's Chambers, North Street, Belfast, on Thursday evening, August 3rd, at 7 o'clock p.m. In the absence of the President, Mr. J. J. Ross occupied the chair. The following members were present: Messrs. John Ewing Johnston, Howard, McConnell, W. S. M. Smith, Henry Gibson, J. A. Thompson, J.P., and J. A. Jordan.

An apology for non-attendance was received from Mr. John George, Magherafelt.

The minutes of the previous meeting having been read were, on the motion of Mr. Gibson, seconded by Mr. Thompson, confirmed.

At this stage the President (Mr. F. W. Emery) having arrived took the chair.

The SECRETARY, in accordance with request, submitted a copy of certificate granted to Honorary Associates by the Veterinary Medical Association of Ireland, kindly lent by the Hon. Secretary of that Association.

Mr. THOMPSON moved, and Mr. ROSS seconded, that the Sub-Committee already appointed to take charge of this matter be authorised to provide copies of a some-

what similar certificate for this Association, and that they be also authorised to select and order an official seal for the Association. Passed.

It was unanimously agreed that Messrs. J. A. Thompson and Jordan be requested to represent the Association at the forthcoming Congress of the Royal Institute of Public Health to be held in Dublin.

Mr. J. EWING JOHNSTON, in accordance with notice, moved that a sum of £4 4s. be allowed to the Hon. Sec. annually in order to provide an assistant. This to take effect from the 1st January, 1912. After discussion this was passed.

It was decided to hold the November meeting in Ballymena on Thursday 16th.

A renewal of the discussion on the question of amalgamation took place, when Mr. Johnston moved, and Mr. Gibson seconded, that this Association approve of the scheme proposed by the Committee of the National Veterinary Association.

Mr. ROSS proposed as an amendment that the matter be deferred until the return from Dublin of Messrs. Thompson and Jordan, when more definite information might be forthcoming. This was seconded by Mr. McConnell. The amendment having been put to the meeting was carried.

Mr. H. D. GILMORE, Kirkecubbin, had kindly consented to read a paper entitled "Notes on a Few Cases," at this meeting. The Secretary, however, announced that he had received the following wire from Mr. Gilmore:—"Owing to accident deeply regret inability to attend meeting."

On the motion of Mr. ROSS, seconded by Mr. McConnell, the Secretary was requested to send a letter of sympathy to Mr. Gilmore. Passed.

After the usual vote of thanks to the President, the meeting terminated.

J. A. JORDAN, Hon. Sec.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

Acting upon the suggestion of the President (Mr. G. R. Dudgeon) given in his Presidential address, that one meeting during his year of office should be of a social character, it was unanimously agreed at a meeting of the Association held on July 7th that an excursion should take place to Middleton-in-Teesdale and Langdon Beck, and a small sub-committee was appointed to make the necessary arrangements. This excursion took place on Friday, July 28th, in perfect summer weather, and it was indeed a happy party of members and their lady friends numbering twenty that left Darlington by the 10.28 a.m. train in a reserved saloon for Middleton-in-Teesdale, which was reached about noon. The members were sternly informed by the President that anybody talking "shop" would be fined five shillings for each offence, and his wishes that professional duties should be left at home were rigidly adhered to for the rest of the day.

On arriving at Middleton-in-Teesdale brakes met the train and conveyed the party to "Ye Cleveland Arms Hotel," where an excellent dinner was partaken of, the worthy President being in the chair.

Previous to dining the church was visited, and through the kindness of the Vicar, who was known to one of the members, an invitation was given to visit his garden, which was much appreciated, lovely views of Teesdale being obtained from it.

After dinner the company was photographed, but owing to the fierce rays of the sun the expression on the faces of many was not considered all that could be desired when the proofs were inspected later on in the

day, many of the ladies appearing rather disappointed that their undoubted beauty of features had not been more clearly brought out.

The brakes were again boarded, and the drive up the beautiful dale resumed. The eight mile drive up to Langdon Beck was perfect, the well kept farm houses, newly whitewashed, on the estate of Lord Barnard, forming a pretty picture against the rich green of the pasture and meadows where haymaking was in full swing, whilst on the Yorkshire side of the dale the outline of the grand hills was clearly defined against an almost cloudless sky, as there was a cool refreshing breeze everything that was to be seen was seen to perfection. A call was made at High Force to view the renowned waterfalls, and as there was a nice volume of water passing over them one saw them almost at their best.

On arriving at Langdon Beck Hotel the more energetic of the party indulged in the old-fashioned game of "rounders" which caused much merriment, and also revealed the fact that one or two of the players were not so sound in their wind as they were twenty years ago, suspicious sounds of "whistling" being heard.

Tea was then partaken of, the bracing moorland air having sharpened the appetites of all. The return journey was commenced about 6.30 just as the sun was setting behind the hills, the beauty of the western sky will not readily be forgotten.

On arriving at Middleton-in-Teesdale complimentary votes of thanks were passed to the President and Sub-Committee for having arranged such an enjoyable outing, all agreeing that this, the first excursion of the Association, had been a huge success, and hopes were freely expressed that a similar excursion should be arranged each year.

Darlington was reached about 9.30 the party then breaking up and going to their respective homes by train or motor car, only sorry that the day had passed all too quickly

J. H. TAYLOR, Hon. Sec. (*pro tem.*)

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the Grand Hotel, Birmingham, on Wednesday, August 9th. The President of the Association, Mr. H. L. Pemberton, of Bridgnorth, took the chair, and there were also present Messrs. J. J. Burchnall, Barrow-on-Soar; R. Over, A. Over, Rugby; H. Thackeray, Stafford; W. H. Brooke, Handsworth; W. T. Brookes, Warwick; S. D. Woodward, J. Young, W. J. DeVine, C. J. Byner, Birmingham; Parsons, Cheltenham; J. Martin, Wellington; W. Tart, Longton; H. Collett, West Bromwich; J. A. Gold, Redditch; and the Hon. Sec., Mr. H. J. Dawes, West Bromwich.

The visitors present were Messrs. Stewart Stockman, Chief Veterinary Inspector of the Board of Agriculture; H. W. Dawes, West Bromwich; and E. M. Robinson, Kidderminster.

Apologies for unavoidable absence were received from Professors McCall, Dewar, and Hobday, Messrs. E. O'Neill, Ramsey, F. W. Barling, H. B. Hiles, E. Woodcock, J. R. Carless, R. Cockburn, D. Forwell, P. Woolston, Barton, T. H. Hobson, R. C. Trigger, W. H. Brown, J. W. Coe, E. Ringer, F. V. Steward, W. Grasby, H. S. Reynolds, R. Hughes, L. W. Heelis, and others.

The minutes of the previous meeting were read and confirmed.

NOMINATION.

Mr. B. L. SECKER, of Malvern Links, was nominated for membership of the Association by the Hon. Sec., on behalf of Mr. F. W. Barling, of Ross.

RECOMMENDATIONS OF COUNCIL.

The HON SEC. reported that a meeting of the Council was held immediately prior to this quarterly meeting, Mr. J. A. Gold being voted to the chair in the President's temporary absence. There were also present Messrs. Martin, R. Over, Brooke, the Hon. Treasurer (Mr. Burchnall), and the Hon. Sec. (Mr. Dawes). It was recommended:—

(1) That the next quarterly meeting be held at Leicester.

(2) That the subject for discussion be "Clinical Notes on Cases by Members," the Hon. Sec. to circularise members to ascertain how many will be able to contribute to the proceedings and in what way.

(3) That the invitation to be represented at the annual Congress of the Royal Institute of Public Health at Dublin be declined for this year.

On the motion of Mr. A. Over, seconded by Mr. Woodward, the report of the Council was adopted, and the recommendations contained therein agreed to.

THE LATE MR. W. CARLESS.

The HON. SEC. said that since their last meeting they had lost one of the oldest and most respected members of the Association in the person of Mr. Wm. Carless, of Stafford. He always took the liveliest interest in the welfare of the Association, and no one was more regular in his attendance. He was president as long ago as 1883 and since then he had served the office of treasurer. He (Mr. Dawes) was looking through the minutes a few days ago and read the presidential address which the late Mr. Carless delivered when he was in the chair, and it was one of the ablest and most practical that had ever been given. Some of them would remember the Midland Veterinary Debating Society which met once a month for several years, and Mr. Carless came regularly to all the meetings and was most helpful, especially to those of the younger members who had gone to learn. They would all miss him very much and he begged to move that they record their deep sense of his loss, and tender to the family their sincere and respectful condolences.

The PRESIDENT, in seconding, said he had known Mr. Carless for many years as an upright and honourable member of their profession, and one moreover who had a sunny disposition and the happy knack of making friends.

The motion was carried *sub silentio*, the members signifying their assent by standing.

"THE EPIZOOTIOLOGY OF ANTHRAX."

By STEWART STOCKMAN, M.R.C.V.S.

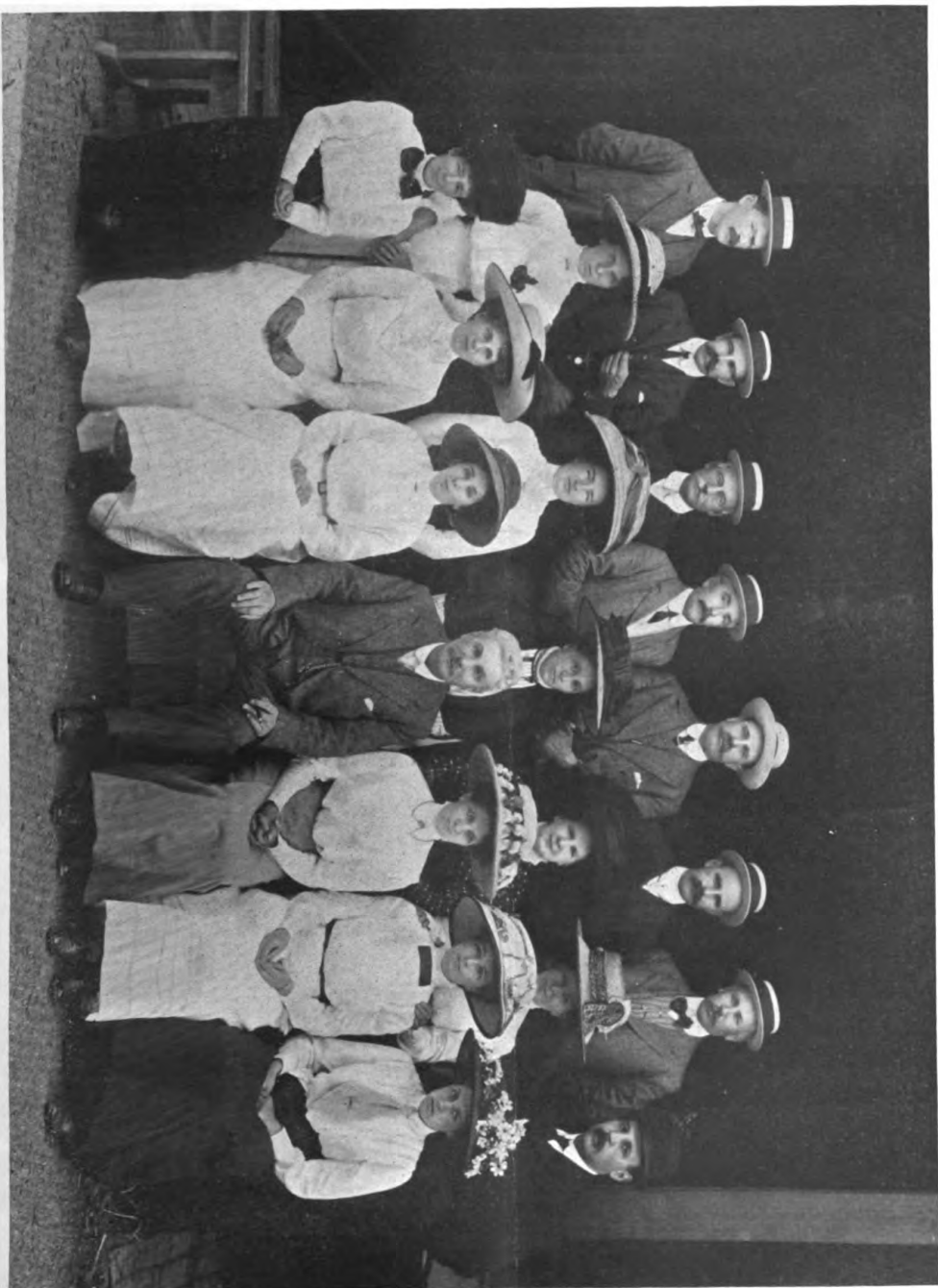
[Read before the meeting at Wolverhampton on May 9th.]

When I was invited to read a paper on anthrax I was very considerably informed that I might choose for my paper whatever features of the disease I preferred to deal with, for it is evident that anthrax in all its features cannot be dealt with in one lecture. I have chosen the epizootiology of anthrax, and, as diagnosis and prevention are most important parts of epizootiology, I have attempted to deal with them as fully as possible.

DIAGNOSIS.

In the cases of cattle and sheep the usual history is that one animal has been found dead or in a moribund condition, and that signs of serious illness had not been observed until shortly before death. Anthrax may or may not be suspected by the owner. Anthrax, however, is not always fatal, and inasmuch as several animals may have contracted the disease from the same source, and be less severely attacked, or in different stages of the disease, it is advisable to make use of such clinical aids

The Veterinary Record, August 19, 1911.



SOUTH DURHAM AND NORTH YORKSHIRE V.M.A. AT MIDDLETON-IN-TEESDALE.

to diagnosis as can be applied on the spot to animals in contact. This applies especially to cows in byres, and it has frequently been observed that some of the contacts to an animal which has died of anthrax show a suspiciously high temperature.

In the cases of horses and pigs there are often certain objective symptoms to guide one, such as swelling of the tissues around the throat, and in the former severe colic. These external lesions are of great value in connection with diagnosis during life and after death, but, while their presence is strongly indicative of anthrax, their absence cannot be regarded as satisfactory evidence that the disease does not exist.

The irrefutable evidence of the existence of anthrax is the presence of the anthrax bacillus in the body fluids or tissues. The blood is the fluid from which preparations can be most conveniently made for microscopical examination, and, since the bacilli seldom invade the blood stream in sufficient numbers to be detectable until the animal is practically moribund, a positive diagnosis follows usually upon the finding of anthrax bacilli in the blood after death. It is seldom indeed that the bacilli have not invaded the circulation in large numbers in cattle and sheep just before death, but very occasionally cases of anthrax are met with in these animals in which a microscopical examination of blood from the peripheral vessels fails to reveal the presence of anthrax bacilli, and other methods of diagnosis have to be employed. In pigs and horses it frequently happens that the animals die of anthrax before the bacilli have invaded the circulation in large numbers, and under such circumstances diagnosis by the microscopical examination alone of smears from the blood in the peripheral vessels often fails. It is advisable in horses and pigs to make smears from a gland near the surface, and from any oedematous fluid which may be present, as well as from the blood.

Given that these methods of examination have been applied with a negative result, there is nothing left except to seek for the cause of death by an examination of the internal organs, still paying due regard to the possibility of anthrax existing, and taking all reasonable precautions against infective material being disseminated. A great deal of importance is often attached to finding a carcass of an animal tympanitic, with blood oozing from the orifices. Without wishing to minimise the importance of this in arousing suspicion of anthrax, I would like to remark that no conclusion can be drawn from its presence or absence. It may happen that this further examination will tend to increase one's initial suspicions. For example, if enlargement of the spleen be found, with a fluid tar-like appearance of the pulp, or if the intestines and lymph glands are markedly congested, anthrax should always be suspected, and smears for further microscopical examination should be made from the altered organs.

A fairly common lesion in pigs, and one of great diagnostic value, is the presence of necrotic areas on the mucous membrane of the pharynx. These vary in size, but are commonly as large as a shilling. The centre is dark, almost black in colour, slightly raised, and the edges are level with the mucous membrane. There is seldom any difficulty in finding anthrax bacilli in preparations made from these areas.

In cattle and sheep anthrax may be confused with black-leg. The local lesions of the latter disease are generally sufficient for differential diagnosis, but it must not be forgotten that in sheep dead of black-leg lesions of the skeletal muscles may be very slight, or even absent. It is sometimes stated that the bacillus of black-leg does not invade the blood stream. This, however, is an error, and the finding in almost pure culture of an appreciable number of bacilli like those of black-leg in preparations made from the blood is almost sufficient evidence to exclude anthrax. In the horse one

may be misled during the life of the animal by the belief that it is suffering from serious intestinal trouble. In dealing with the carcass of an animal, however, it is unnecessary to attach a great deal of importance to differentiating finely between the macroscopic lesions of anthrax and other diseases, because if the circumstances or lesions are such as to make one suspect anthrax the question can be decided by establishing the presence or absence of a definitely ascertained microbe; these things are happily no longer the matters of opinion which men of the more ancient clinical school found time to wrangle about.

We have next to consider the methods of establishing the presence of anthrax bacilli in fluids and tissues, and microscopical examination naturally comes first for consideration. I take it, it may be assumed that everybody knows what is meant by a smear, that smears should be made from blood present in the peripheral vessels, such as those at the base of the ear, that they should not be made from blood found oozing from the orifices, that in the cases of the horse and pig it is highly advisable also to make smears from a superficially placed lymphatic gland, and that for bacteriological examination an oil immersion lens is indispensable. The smears are fixed by heating the glass slides over a flame, after the fluid has been dried. Amongst the specimens sent to the laboratory purporting to contain anthrax bacilli a few have been unstained cover-glass smears of blood mounted in balsam, and I have known members of our profession who claimed that they had no difficulty in identifying anthrax bacilli in unstained preparations. This, however, is rapidly becoming a lost art, and one of the penalties we have had to pay for the advance of civilisation is that we must now stain our anthrax preparations. The anthrax bacillus is not difficult to colour with any of the bacterial stains, nor is it difficult to identify whatever be the stain employed, provided the material for the smear has been obtained very soon after the death of the animal and the organisms are fairly numerous. The classical description of the anthrax bacillus in preparations from the blood is: a rod-shaped organism measuring 5 to 8 μ by about 1 to 2 μ , ends square cut, or showing cup-shaped depressions, consisting of a central rod of protoplasm bounded by a translucent capsule, occurring singly, or in twos or threes joined end to end, but not as long filaments. To see anything very closely resembling the above picture, one must examine perfectly fresh material taken soon after the animal's death. If one expects always to find it in preparations made under the conditions obtaining in the field of practice, the expectation will not be realised. The veterinary inspector frequently does not arrive on the scene until twenty-four or thirty-six hours, or even more, after the animal has died, and it is common knowledge that in this time even the blood in the peripheral vessels may become grossly contaminated by the organisms of putrefaction, especially during hot weather. These organisms, as it were, crowd out the anthrax bacilli, and as some of them, particularly the bacilli of malignant oedema, bear a certain resemblance to anthrax bacilli, the problem of identification becomes more complicated. Further, it is also well known that anthrax bacilli contained in blood, especially under the anaerobic conditions obtaining in the blood vessels of an unopened carcass, undergo degenerative changes, and disappear in a variable time. These changes give rise to distorted forms, which, up to a certain point, may aid identification, and beyond that make it more difficult. The central protoplasm may be twisted, shrivelled, and very granular, but the most marked changes are probably observed in connection with the capsules, which may swell up to several times their original size, and assume curious shapes; they may also rupture. Sometimes the protoplasm inside the swollen envelope takes the stain very feebly, giving rise to what may be referred

to as ghost forms. In preparations made from tissue which has been exposed to the air for some little time one may also see anthrax threads of considerable length, made up of bacilli of about equal length joined end to end, and there may even be sporulating forms in warm weather. In the majority of cases, however, the long forms seen in preparations are not anthrax filaments; they are threads of the malignant oedema bacillus, made up of rods of very unequal length, and of greater thickness than those of anthrax when stained in certain ways. Other filaments of bacilli more or less resembling anthrax may also be present when the material has become grossly contaminated.

I have purposely said nothing about motility as an aid to differentiating between anthrax and other micro-organisms, as I consider the manipulations necessary to put it in evidence are too dangerous to be made use of by practitioners. The anthrax bacillus is not motile.

Two methods of staining are particularly helpful in the identification of anthrax bacilli, while certain others should be avoided. First, we may take Gram's method. This is not a good method for staining the anthrax bacillus, as it usually shrivels the protoplasm, renders it very granular, and causes a certain amount of distortion, which may make identification somewhat difficult in certain preparations. On the other hand, it may be usefully employed, when necessary, to distinguish between the anthrax bacillus, which is Gram-fast, and other somewhat similar microbes which are not—malignant oedema, for example. The most misleading stain of all is gentian violet, which is apt to colour the envelope of the anthrax bacillus, giving the rod an unnaturally thick appearance. This increases the difficulty of distinguishing between it and certain other microbes. The now well-known methylene-blue method of staining has the highest diagnostic value of all. As everyone knows, this, as a valuable aid to the identification of anthrax bacilli in preparations made from the blood, was first described by Sir John M'Fadyean. It consists in staining the smears in a 1 per cent. watery solution of methylene blue, and an essential point in the technique is that the smears must be only lightly fixed. The protoplasmic rod stains blue without undergoing distortion, and the capsule, particularly if it has become swollen, takes on a rose-pink colour. Sometimes the material of the capsule becomes massed, and appears in the preparations as small pink islands; at other times the field of the microscope has a pink, peppery appearance. Even after all the rods have disappeared one can often find pink masses in a blood smear.

In my Annual Report for 1905 certain observations on guinea-pigs dead of anthrax were described, in which the pink reaction was obtained eighty-six hours after death, but was not obtainable 126 hours after death, when the body had been opened; and in another guinea-pig, which had not been opened, a very distinct reaction was obtained in preparations made from the spleen ninety-six hours after death. Since then I have obtained it from scrapings of dried blood from a shed in which the carcase of a cow dead from anthrax had been dressed about a month previously, and I have also obtained it from the spleen of a cow which was exhumed three weeks after death. I do not, however, mean to assert that one can count upon obtaining it at these long intervals after death.

The other aids to diagnosis which one may employ are cultural examination and inoculation. These are methods for the laboratory, but, inasmuch as the laboratory has to depend on the practitioner for material, you will probably desire that I should say something about these methods, and how material should be collected for transmission. When the microscope fails to reveal the presence of anthrax bacilli, or when the material is so grossly contaminated with other microbes that identification of the anthrax bacillus is difficult, inoculation or

cultural examination may be resorted to, and it ought to be made use of if the history of the case is suspicious. For inoculation guinea pigs or white mice are usually employed, and one is almost always restricted to the scarification method in order to avoid killing the animals with malignant oedema. Material which is grossly contaminated, or which contains very few anthrax bacilli, sometimes fails to infect by the scarification method, and on this account it seems probable that the cultural method is the more reliable, because the contaminations can be got rid of, and there is no reason to believe that one or two bacilli or spores are not sufficient to start a culture, although they may fail to fatally infect an animal. Agar slopes are inoculated with material from a swab, and placed in the incubator overnight to give any anthrax bacilli which may be present the chance to sporulate. The culture tubes, or material therefrom, are heated in a water bath at 80°C. for half an hour. This kills all the non-sporulating bacteria, which are the majority, and by making cultures on agar slopes from the heated material it is possible to obtain relatively pure or even pure cultures of the anthrax bacillus in a matter of hours. Needless to say, the material sent to the laboratory should be collected as purely as possible.

What is now known as the Strassburg method of collecting material has been strongly recommended by many authorities. In this method pieces of gypsum are soaked in broth, which fills the pores, and they are afterwards sterilised in test tubes and sent out to inspectors. The gypsum is dipped in the suspected material and returned to the laboratory. The theory underlying this method is, that the anthrax bacillus finds the conditions for sporulation in the pores of the gypsum, assuming the temperature to be favourable, and may even have sporulated by the time the material reaches the laboratory. Under the conditions prevailing in Great Britain, however, the simpler method of sending to the laboratory smears and a swab of sterile cotton-wool which has been soaked in the suspected material meets the case. This is the method in use by the Board of Agriculture, and I have brought with me an apparatus which has been designed for collecting and transmitting material.

Members of this Association will probably be surprised to learn that at this late date in the history of a profession which may justly claim to be a scientific profession, there are still men in the position of veterinary inspectors to Local Authorities who are so forgetful of their responsibilities as to send by post, in cigar boxes and other leaky vessels, portions of spleen and other tissues from animals suspected of having died of anthrax. Apart from the moral obligation involved, I think you will agree with me that it would not advance the prestige of the veterinary profession if any one of its members had to answer a charge of contravening the Post Office Regulations in a matter of this kind, or if he were charged with the more serious offence of culpable homicide.

EPIZOOTIOLOGY.

The most important factors admitted or suggested to explain the upkeep and dissemination of anthrax are as follows:—

First. The disease is not disseminated to any important extent by the infected animal during life, but it may arise from a patch of infection established by a previous case on a pasture. It is well known that anthrax bacilli may sporulate under certain conditions, and that the spores are very tenacious of life; in the laboratory they may remain infective for several years. One does not know definitely, however, to what extent spore formation may occur in blood, etc., deposited on the pastures under the climatic conditions obtaining in Great Britain, and it must be remembered that for several years past it has been customary to avoid the spilling of blood from

animals dead of anthrax. Nor is it known how long the spores of anthrax, granted their formation, may remain capable of infecting after their arrival on the pastures. The available evidence is totally opposed to the view that anthrax arises mainly, or even to a great extent, from previous cases on the same establishment. If it did, one might fairly expect to find the disease frequently repeating itself on the same establishments in the same year and from year to year. This does not happen in Great Britain. The information summarised in Table I from the official records clearly shows that the vast majority of outbreaks (average 83.5 per cent.) occur on farms which have not been previously infected, and it is to be noted that it does not necessarily follow that in the remainder (16.5 per cent.) infection arose from virulent material on the pastures, or from a previous case on the same establishment.

TABLE I.

Showing Total Outbreaks for Five Years—1902-1906—in six of the Worst Infected Counties in Great Britain, together with the Number and Proportion of Outbreaks on New and Previously Infected Farms

County.	Total Outbreaks.	Number on new Farms	Per cent. of Total.	No. on previously Infected farms	Per cent. of Total.
Aberdeen	500	400	80%	100	20%
Somerset	143	119	83%	24	16%
Salop	125	112	89%	13	10%
Wilts	78	67	80%	11	19%
Cheshire	218	191	87%	27	12%
Total	1064	889	83.5%	175	16.5%

By going through the records in the above counties of the 993 farms infected for the first time during the ten years from 1895-1904, I found that anthrax had occurred more than once during that period on 120 farms, that is, on only 12 per cent. of the total.

With regard to the proportion of farms on which anthrax occurred more than once in any one year, the records over a period of twelve years (1895-1906) for the above counties were examined. There were infected for the first time during that period 1388 farms, and anthrax occurred more than once in any one year on only fifty of them (4.6 per cent.) These figures were published in my Annual Reports for 1905 and 1906, and since then the records for all the other counties of Great Britain have been examined with practically the same result. In considering the importance of ground infection one must also weigh the fact that although there have been over 500 outbreaks a year in Great Britain for many years, which must have infected an enormous number of premises, the disease has certainly not increased in proportion, and only a small minority occur on previously infected farms.

Table II. shows the quarterly incidence of anthrax from 1906-10. It will be observed that there is a marked and constant drop in the number of outbreaks in the third quarter of each year, that is to say, at the time when most stock are on grass, and that there is a decided rise when the animals may be assumed to be running in, and receiving artificial food.

Second. It is suggested that the disease is carried by flies.

Many are familiar with the sight of flies feeding on the blood of a carcase which has been opened, and one of the oldest suggestions in relation to infection in the case of anthrax is that it may be carried by flies. In a

recent report to the Local Government Board, Dr. Graham-Smith showed that living anthrax bacilli could be recovered from the material which flies regurgitate after feeding, and from their faeces, provided they had fed on anthrax bacilli. Cultures were obtained from the faeces forty-eight hours, and from the crop five days, after feeding. After feeding on spores cultures were obtained up to the twentieth day. This, of course, is not surprising, as we know the spores may live for years. These observations convey the suggestion that flies in the above way disseminate anthrax. I think one must admit that flies could carry infection, but, interesting as Graham-Smith's observations undoubtedly are, there is no important gap in the epizootiology of anthrax which his observations can fill. Further, we have every year a certain number of cases in which men contract anthrax from dressing infected carcases. When this happens it is not those helping, on whom flies may, and do, alight, who contract the disease, but almost invariably it is the man who does the actual cutting, and who has sores on his hands and arms, which come in contact with the blood. Moreover it is quite obvious from Table II. that the number of outbreaks in cattle drops very decidedly during the season in which flies are prevalent.

Third. Infection may be carried by contaminated feeding stuffs brought in from without, particularly by material brought in from countries where anthrax is very prevalent.

The facts brought out in Table I. are strongly in favour of the view that the great majority of outbreaks in this country are due to infection from without. Table III. summarises the information collected in connection with 1257 outbreaks of anthrax on previously clean farms, where ground infection could not have operated. It is to be observed that only those cases in which the diagnosis was beyond question have been taken, and that special inquiries were instituted into the correctness of the history of the premises.

TABLE III.

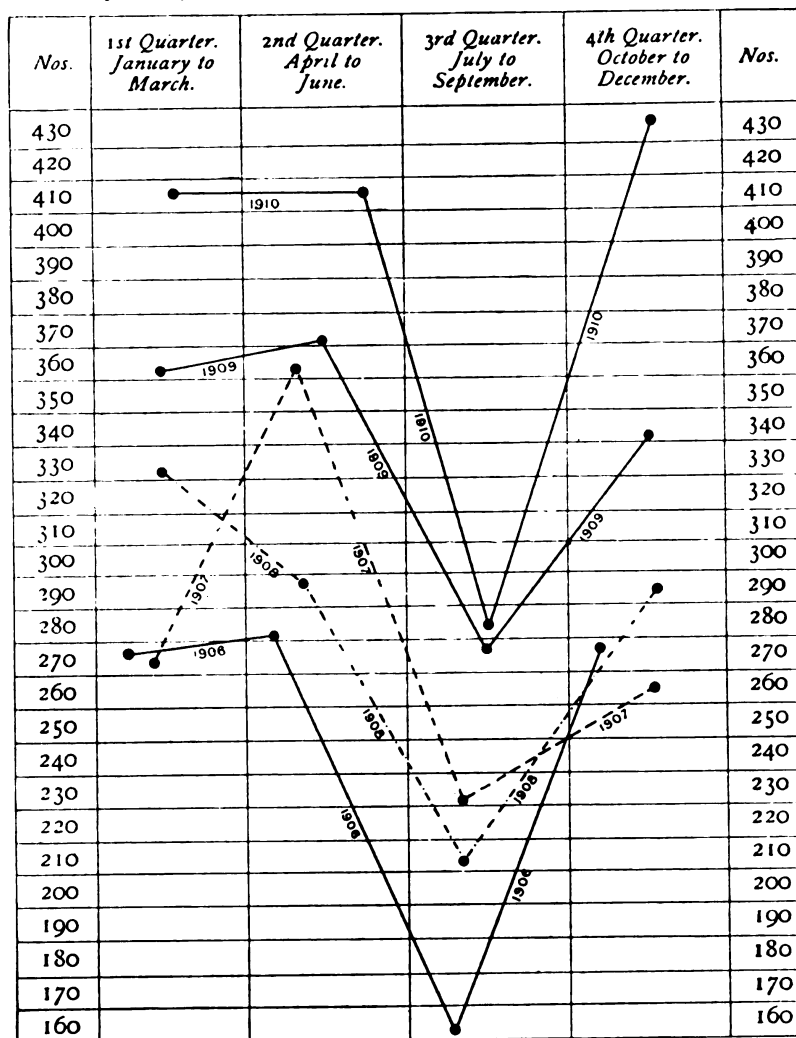
Showing Results of Special Inquiries into Cases of Anthrax reported from Farms said to be Infected for the First Time (1905, 1906, 1907, 1908, 1909).

Total cases inquired into 2527. Deduct 1270 cases in which the diagnosis could not be confirmed = 1257.

Confirmed cases. Total	1257
Number of those which on further inquiry might have been due to a former case (i.e., a death under suspicious circumstances was known to have taken place).	179 (14%)
Number of those in which no former history of Anthrax could be obtained after careful inquiry.	1046 (83%)
Number of those in which after careful elimination of other causes the evidence pointed to artificial feeding stuffs or manures	860 (68%)
Number of those in which there was no history of former outbreaks nor of artificial feeding stuffs nor manures	254 (20%)

Evidence that food stuffs carry infection is very difficult to obtain under the conditions of experimentation, one reason being that the infected portions have probably been consumed by the dead animal before samples were taken. During the last few years samples of feeding stuffs upon which suspicion rested have been experimentally examined at the Board's laboratory with negative results. Both Sir John M'Fadyean and Mr. Dunstan, M.R.C.V.S., however, have demonstrated experimentally that cake may contain the spores of anth-

TABLE II.
Quarterly incidence of Anthrax in Great Britain, 1906-1910.



rax, and the former has isolated the anthrax bacillus from imported oats. These positive results, few as they are, are of the highest importance to the question under discussion, when one considers how enormous are the chances against obtaining them with the small samples it is possible to examine experimentally.

One has next to inquire how feeding stuffs may become contaminated. In the process of manufacture the material from which cake is made is heated to a temperature considerably below the boiling point of water (180 to 200 F.), which is, of course, insufficient to destroy the spores of anthrax. Compound cakes are pressed between metal plates, but the seed from which the other cakes are made is pressed in cloth bags, made from refuse wool and horse hair, to extract the oil. On the assumption that the material used in the manufacture of bagging might infect the cake (shoddy wool and horse hair are frequently infective), about a hundred different samples were examined experimentally at the Board's laboratory, but with negative results. Personally, although I cannot free my mind from the the suspicion that bagging may infect cake, I think the most

likely explanation of infection is that the grain or meal in course of transit from countries badly infected with anthrax becomes contaminated by infective material from dry hides, which, on account of their light weight, are often stowed on the top of other cargo. I have known a number of outbreaks follow the distribution of a consignment of Soya beans in a part of the country where previously anthrax was almost unknown. It should also be noted that there is a possibility of cake being contaminated by infected material after it leaves the factory.

Fourth. Infection may be disseminated by bone manure, shoddy manure, and refuse from tanneries, which may be put on the land or allowed to contaminate the water supply.

There is no doubt that the disease is exceptionally prevalent in certain districts where imported hides are tanned and wool is washed, the assumed explanation being that the drinking water becomes contaminated by the sewage from the factories. In the course of inquiry it has also been found that the disease is exceptionally prevalent on certain sewage farms which are known to

receive tannery and knackery drainage. With regard to bone manure, I have not obtained evidence that a large number of outbreaks can be accounted for in this way, and it should be noted that most of the bone manure used in this country has been heated, or submitted to a chemical process amounting to disinfection, before it is used on the land. There are outbreaks, however, in which the circumstantial evidence indicates that infection has been introduced with turrips which have been grown on land manured with crushed bones. Given infected particles of bone in the soil, one can imagine that roots with the earth adherent might be infective.

PREVENTIVE MEASURES.

In discussing preventive measures in relation to anthrax, I would like to take further advantage of the liberty you have accorded to me of limiting discussion on my part to certain features, for it would not be possible to deal with every side of this question without prolonging the paper beyond reasonable bounds, and I feel I have already overstepped the limits of your patience. I would like to restrict myself to preventive and curative inoculation, as the part of the subject which is of more direct interest to practitioners.

The Pasteur method of preventive inoculation has rendered great service in preserving stock on badly infected farms in various parts of the world. The method consists in injecting the animals with fixed doses of attenuated cultures of the bacillus anthracis. Two injections at intervals of twelve days are performed. For the first injection a very attenuated culture is used (first vaccin), and for the second a less attenuated culture (second vaccin) is employed. Immunity is established about twelve to fifteen days after the second vaccin has been injected. It lasts in cattle about a year, and should be repeated after this period. The great majority of cattle operated on show little more than a temporary indisposition with passing fever after the injection, which may be assumed to indicate a slight attack of anthrax. Occasionally, however, an inoculated animal may die of the disease as the result of the injection, and for this reason the animals undergoing the process of immunisation should be kept in a special paddock, or, better still, in sheds which can be disinfected in event of an accident taking place. In sheep, accidents are more frequent. The operation should only be attempted by skilled persons, who will know the best way to prevent accidents, and adopt measures to limit their consequences should they occur.

Since the operation is not altogether unattended by the possibility of loss, and since it incurs a certain amount of expense, one has to consider under what circumstances it will be worth while undertaking it. It will be obvious from the first that on farms registering only one death annually it will hardly be called for, and that it would be folly to adopt it on clean farms.

It results from observations on several millions of cattle in various parts of the world that accidents occur in about 5 per cent, of the inoculated taken all round, and that the operation may be expected to reduce the death-rate from anthrax on infected farms to about 1 per cent, or slightly under.

If accidents threaten to occur from the inoculation, they can be avoided to a large extent by giving a dose of anti-anthrax serum. This serum is useful both as a preventive and as a curative agent under certain circumstances. The immunity following upon an injection of serum is, of course, quite temporary, but it lasts long enough to tide the animals over certain risks. For example, if an animal has died from anthrax amongst other animals and its blood has been spilt, it is advisable to inject the others with serum, and remove them from the infected place if possible. If it is not possible to remove them, it is even more desirable to give each a dose of serum to protect them while disinfection

is being carried out. The immunity from serum lasts about ten days. When a case of anthrax has occurred, from infection by cake or from preventive inoculation with virus, for example, and any of the animals in contact show an abnormally high temperature, a dose of serum should be injected. Unless an animal has been very heavily infected, which does not frequently happen in practice, the infection remains local for a long enough period to enable serum to act.

The chances are very much in favour of saving the life of the animal by the use of serum, provided the blood-stream is not yet invaded by the bacilli. Once the blood-stream is invaded, serum is likely to fail.

PHYSIOLOGICAL PRINCIPLES OF PHYSICAL TRAINING.

By M. S. PEMBREY, M.A., M.D.

[Being a lecture delivered to the Sanitary Institute, May 3rd, 1911].

At the present time there is a widespread interest in systems of physical training. This is both a good and a bad sign: good, because it shows the recognition of the need of improvement in the physique of the people; bad, because it proves that the natural instincts which once guided mankind are becoming lost in the progress of civilisation. Compulsory education has enabled all to read, and nowadays no one can escape reading in the newspapers something of the promises made by the inventors of so-called scientific systems of training. It would appear, from many glowing accounts and testimonials, that almost every disease can be cured by a course of special exercises. Many readers are misled, for they think that they are studying science when they gaze upon crude diagrams of the human frame, and read the anatomical names of different parts.

It would be far better if more attention were paid to the teachings of instinct, common-sense, and experience. Anatomy deals with the structure of the dead body, and can never supply knowledge of the processes which occur during life; it can never be made the basis of any true system of physical training. The first principles must be biological.

At the very beginning of their existence animals have a potential fitness for some special mode of life; some will become swift runners, others climbers, and others fliers. As they grow they acquire a physical fitness which excites our admiration, and we may well ask how the swallow learnt to fly, or the waterfowl to swim and dive. Here no system of physical training has been handed down by tradition. The opportunity for exercise is all that the animal requires. In healthy young animals, as in children, is inherent the love of games and romps. At first they move in a clumsy and ill-timed manner, but soon they learn by frequent practice how to regulate the sequence and force of the contractions of their muscles. They are not taught by their parents, they learn by themselves, and by their gambols train themselves for the work of their life. Their physical training progresses with their age.

In games, therefore, we can find a natural basis for the physical training of the young. We must accept the teaching of evolution and be guided by experience, for our knowledge of anatomy and physiology in relation to muscular work is too incomplete.

An attempt will now be made to show how much we can learn about the physiological principles of physical training when we examine carefully the experience which has been obtained from games, sport, and work. The first principle is progression. The early practice for a contest is made easy and of short duration, and by gradual stages the subject learns to accommodate him-

self to more and more severe work. The value of progression is recognised by all athletes. The first performance of a definite muscular action is not so economical as the later ones; some muscles are contracted unnecessarily, others are contracted out of their proper sequence, and undue fatigue and soreness are produced. Practice makes perfect, and each man develops as his own the style which best befits the capacities of his body. The authors of systems of physical training insist upon the proper style in which a given exercise should be performed; herein they make a mistake. There is no uniformity in style, and the results of numerous contests on land and water have proved the importance of individuality. No two men are constituted in the same way, and they will not perform a given piece of work in the same way.

Different games, sports, and work require special developments of different muscles. Progressive training produces the necessary effect; muscles respond to work by increased activity and growth. Gymnastic systems lay great stress upon the uniform development of all the muscles. This is uneconomical; no one can become proficient in all forms of work, and a great development of muscles which are not required, is a drawback, producing slowness of movement, a condition known as "muscle bound." If all the muscles are to be uniformly developed, they must be constantly used, otherwise some will atrophy from disuse. So-called uniform development may produce an ideal figure, but the test is not how the man looks but what he can do. The ideal figure is, moreover, a convention, and the fashion changes. At one time the gymnastic ideal produced the soldier with the "pouter chest"; his fitness was sacrificed to appearance. At another time the "strong man" of the music halls was the type, and alertness of mind and body was of little value compared with enormous muscles.

Gymnastic ideals come and go, but nevertheless they do harm. Not long ago it was maintained that during walking and marching the arms ought not to swing with the stride; this was opposed to all physiological knowledge and experience, caused a waste of energy, and impeded the circulation of the blood in the arms.

Uniform development and action are contrary to all we know of division of labour and differentiation of structure. A farm labourer who would march across a ploughed field with the step of a gymnastic instructor is a fool. He does not do it, for he has learnt by experience the gait which is most economical and comfortable. A healthy man who has to carry loads upon his shoulders develops a figure most suitable for his work, even although it is opposed to all the ideals of the gymnastic expert. The test of lifting and carrying sacks of corn will show who is right. Individuality ought to be cultivated, for uniformity results only in degeneration. Games favour individuality; gymnastic systems deadly uniformity.

Muscular exercise influences the whole body, and the different organs react upon each other. It will be convenient, however, to consider the different systems of the body in relation to physical training.

The *Heart and the circulation of the Blood* must be regarded as the most important factor. A great athlete must have a good heart, but he may have but little mental capacity. The heart pumps the blood through the lungs, and is the most important component in a "good wind," for it is useless to ventilate the lungs unless the blood circulates rapidly enough for the efficient removal of carbon dioxide and the necessary absorption of oxygen. One erroneous idea of some authors of systems of physical training is the expansion of the chest in order to give the heart more room in which to move during work. Their little knowledge of anatomy and physiology has led them astray, for they have forgotten that a vacuum cannot be produced in the chest.

Athletes and the trainers of racehorses and greyhounds have learnt from experience the correct way to train the heart. The heart is a muscle, and must be trained progressively. Its rate of contraction varies greatly in different healthy men; some men at rest have a pulse rate of fifty, others of eighty per minute. There is no uniformity, but in all men there is a response to exercise. Muscular work may increase the rate to one hundred and sixty per minute, and thus it will be seen that the man with the slow pulse has the greater range. It is found that many of the best athletes have a slow pulse, and that the general effect of progressive training is to produce a slow beat of the heart during rest, and a more rapid return to this rate after strenuous exercise. A weak heart is not made stronger by the avoidance of muscular work; it should be exercised by slowly increasing the amount of work to be done.

The *Respiratory System* has exerted a peculiar fascination upon the authors of systems of physical training. Do not the lungs take in the life-giving oxygen and discharge the poisonous gas, carbon dioxide? Therefore they maintain that the lungs must be made to do their work more efficiently by special breathing exercises. The air is to be drawn through the nose by a deep expansion of the chest and to be expelled with a blowing noise through the mouth. Such breathing exercises, notwithstanding the fact that they have been approved by the Board of Education, are absurd in theory and useless or even dangerous in practice. The body does not take up more oxygen than it requires however much the lungs are ventilated, and if too much carbon dioxide be removed the subject becomes giddy and stops breathing. Another result of this exercise is that, when a class performs it, the spray of the breath containing any infectious germs, which may be present in the throats of some of the members, is spread broadcast and is inspired by others. It is no wonder that compulsory education and breathing exercises have coincided with numerous epidemics among school-children.

Healthy children do not require teaching how to breathe; they have breathed without the exercise of any thought from the time they drew their first breath. At rest they will breathe through the nose, and during hard exercise they will open their mouths, for the resistance to the passage of the air is thereby diminished. They are right; the extreme views advocated by some teachers of breathing exercises are wrong. It is not necessary to teach healthy children to breathe through the nose; they learnt this at their mothers' breasts. No infant can suckle properly and breathe through its mouth; every intelligent mother who has suckled her child knows that it breathes through its nose, and that trouble arises if the passage of the air is prevented by the pressure of the nose against the breast, or by the accumulation of mucus during a cold.

Athletes and the trainers of racehorses have learnt by experience how to train the lungs. By progressive exercise the respiratory system is stimulated in the natural manner; the muscular work of running produces more carbon dioxide and uses up more oxygen, the nervous system responds to the changes in the blood and the respiratory muscles contract more frequently and forcibly. A further advantage is that the heart is stimulated and trained at the same time.

Special gymnastic exercises have been devised with the purpose of expanding or opening out the chest. The result can often be seen in soldiers who tend to fix their chests in a partly distended condition. There is no reason for such bad exercises. The increased girth of the chest produced in this way is often only apparent, and is due in some cases to a special development of the muscles of the chest, and in others to a forcible displacement of the stomach into the chest. A big chest is no proof of a "good wind," although it is true that healthy men who have led an active life often possess

well-developed chests. The body works as a whole, and a "good wind" can be acquired only by progressive exercise, such as running. This produces those complex chemical and nervous changes which result in deeper and quicker breathing, and a more rapid contraction of the heart.

There is a further serious objection to breathing exercises. The authors of systems do not agree in their teaching; some proclaim thoracic, others abdominal breathing. This lack of agreement one would expect, for the truth is, that the types of breathing vary not only in different individuals, but even in the same individual, according to the conditions involved during rest and work. There is no exact knowledge of the muscles involved in respiration, and dogmatic teaching on the question is a sign of ignorance.

The *Muscular System* must be studied in the living, not in the dead subject. Anatomical knowledge, unbalanced by an education in physiological principles, has had a pernicious effect upon systems of physical training. A knowledge of the names of the bones and muscles is not necessary for a good trainer or instructor. The authors of systems have been misled by their knowledge of anatomy, and have designed exercises to develop each muscle; no postures, however unnatural, have been neglected in the attainment of this end. It has been pointed out already that the uniform development of the muscles is not desirable; muscles which are not constantly used in everyday life do not require excessive development, for an unnecessary drain is thereby made upon all the other systems of the body. Agility and capacity to perform movements smartly cannot be obtained by developing big muscles by special bends, or exercises with dumb-bells or heavy weights.

No man can be trained in any special manner by a course of exercises designed to develop one by one his different muscles. If he wishes to become a runner he must practice running; if he will become a good oarsman he must row; if he must perform any given work efficiently he must learn by doing it. This has been the English method; the work is done, the theory may or may not come later.

The *Nervous System* is concerned in all muscular work, and derives far more advantage from games and sport than from drills and gymnastic exercises. Games and sports are pursued for their own sake, for the pleasure and interest which they afford. It is a morbid taste, which makes a man use a so-called "exerciser" attached to the door of his bedchamber, because it has been suggested to him that by so doing he will learn how to live and how to escape disease. The suggestion may do him good, and any exercise is better than none at all.

The sportsman, be he a man or a boy, does not consider whether his sport will prolong his life; on the contrary, he ignores warnings that it will ruin his health or cost him his life. He pursues his game because he likes it; he has not become so civilised that he has lost the primitive instincts how to live as a man. He learns by experience to rely upon himself, to meet unforeseen emergencies, and trains his eye and sense of judgment.

There is always a medicinal flavour about drill and gymnastic instruction. It is a corrective. There is a sense of restraint, a suppression of the personal equation, an undue fatigue due to muscles unnaturally used, and to the conflicting nervous impulses produced in response to orders. There is no purpose in view in many of the Swedish exercises except the medicinal. This does not appeal to the English man or boy; in fact, in some schools one hour's drill is given as a punishment.

The nervous system is stimulated by games in the open air; the exposure of the skin to cold and wind produces a tonic effect which is wanting in the drill-hall or gymnasium. Immunity to the effects of changes of weather, to the dangers of chills and colds, can be obtained best by open-air exercise in all weathers. Colds are in-

fectious diseases, and are more liable to spread in closed rooms than in the open air. The dust of the floor and of the mats in a gymnasium is a source of danger which requires more recognition. Insistence upon the importance of exercise in the open air will do much to mitigate the evils of gymnastic courses, for it imposes an obstacle to the erection of gymnastic furniture.

The *Digestive System* is benefited by muscular work, for a greater appetite is produced and nutrition is improved. No special limitations in the nature and quantity of the food are necessary; likes and dislikes are in the long run the best guides of a healthy child or adult. The man who takes sufficient daily exercise runs no risk of becoming corpulent when he eats as much as he desires. One never sees a fat constable in rural districts, but in the City, on "point" duty, such officers can be found without difficulty.

It is recognised by trainers that severe exercise should not be performed directly after a heavy meal. A more active circulation of the blood is required by the abdominal organs during digestion, and this would conflict with a similar need upon the part of the muscles during severe exercise. The result would be impaired efficiency of both systems.

The *Cutaneous System* plays an important part during exercise, for the secretion of sweat and the flushing of the skin with blood lower the temperature of the body. The skin is, moreover, the largest sensory area of the body, and exercise in the open air exposes it to heat and cold. In such a manner accommodation to changes of temperature is acquired. This is often known as the "hardening process," and it possesses a sound basis.

It is an advantage to push exercise to the stage of sweating, for thereby the regulating powers of the body are trained, and the skin is cleansed in a natural manner. The labourer who lives by the sweat of his brow is much cleaner than one would expect from his meagre use of baths.

A detailed consideration of the effects of muscular exercise upon all the organs of the body would be impossible, on the grounds of want of both space and knowledge. There are, however, a few more points which must be mentioned. The living body is constantly compared to a machine, and the effects of work are considered from that point of view. It is forgotten that the body is more wonderfully and perfectly made than any machine. It possesses the power of self-adjustment and of repair; with use it grows and becomes stronger, and at the same time more economical in its working. It cleanses itself and is self-guided to supply the energy requisite for its work. It has a range of adaptation to different kinds of work, and a duration of life far greater than the capacities of any machine.

Another question to consider is the significance of fatigue, muscular soreness, and pain. These are not evils, but warnings which protect the body from damage. The natural response to such sensations is rest and sleep, time is given to the processes of restoration. On the other hand, the best method of inducing healthy sleep is muscular fatigue of moderate degree; muscular exercise cannot be taken without nervous activity, but severe mental work is often unaccompanied by muscular activity sufficient to produce those complex chemical changes which accompany healthy fatigue. One of the factors in fatigue appears to be the presence of poisonous substances, or toxins, in the tissues. By exercise the body is trained to combat the early onset of these effects, and a great power of resistance can be acquired.

It might appear from the previous remarks that games and sports are free from defects. Such is not the case. Although progression is recognised, far too much importance is attached to records. In a race the man who comes in first is considered the victor and the best man. This is a bad test. The condition of the man at the end of the contest is an important factor which is not re-

corded by the stop-watch. In some contests, such as *The Daily Telegraph* Cup for marching and shooting, this is recognised. A soldier who has marched or run himself out is not steady enough to shoot straight.

Although there are games and sports suitable for all ages and degrees of physical fitness, many men and women who live somewhat sedentary lives unwisely devote their holidays too vigorously to muscular exercises. They have not been trained sufficiently, and they may be so overstrained and fatigued that their holidays do them more harm than good. Time is required for accommodation to any great change in life, and a man who is going for a tour on his bicycle, or will row or climb during his holidays, would derive far more pleasure and benefit if he devoted some of his time beforehand to progressive training.

Diet is often a stumbling-block in the way of trainers and athletes, and, owing to the special pleadings of some writers for the daily press, fashions in diet arise. There is no standard food; what is good for one is bad for another. A healthy man is guided by his likes and dislikes, and the man is a degenerate who requires to be taught by his newspaper how, when, and what he should eat. A man in training for a severe contest should take as much simple food as he can enjoy, but he should not be dieted according to any rigid rule. The condition known as "staleness" appears to be due to a rigid insistence upon some definite diet during training. A man can learn only from experience what diet suits him best.

There is a general opinion among athletes and trainers that alcohol and tobacco are liable to do more harm than good. The use of these drugs is an acquired habit, and abuse often occurs. There is evidence that efficiency in

the performance of muscular work is diminished, and that the accommodation of the heart is impaired by their use. Too narrow a view, however, must not be taken, for it is often found that an excess of virtue is accompanied in many cases by a lack of manliness. The sudden prohibition of moderate drinking and smoking may cause so much discomfort and discontent that there is no compensation.

Much has been written concerning the danger of injury during certain games and sports. The alarm has been sounded chiefly by those who do not recognise that the bad results must be taken with the good. The result as a whole is excellent, both from a moral and a physical standpoint, and the death or injury of a few individuals is far less serious to the race than the loss of manliness. The discipline of most games and sports is so good in this country, that there is little risk of wilful injury of one competitor by another.

In conclusion, it is only fair that some credit should be given to gymnastic systems. They do good to those who will not take exercise in the form of games and sport, for they include many excellent features such as climbing, jumping, and balancing. Gymnastic exercises can be organised for large classes, and for the purpose of discipline, but they require revision. It is to be hoped that the systems might be developed in this country in two divisions, one consisting of exercises of the nature of games and sport for the sake of the healthy; and another of corrective exercises performed under medical supervision for the cure of defective development or deformities. Such a change would be in conformity with the national characteristics of this country, and with the teaching of sound therapeutics.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.		Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	(including Farcy)		Counties Affected	Animals Attacked	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported			Outbreaks	Animals.					
Gr. BRITAIN.													
Week ended Aug. 12	11		15				3	3				45	654
Corresponding week in	1910	19		22			8	52	Hants 1		2	17	185
	1909	23		27			8	16				26	218
	1908	11		12			8	74	Middlesex 1		3	24	250
Total for 32 weeks, 1911	534		666		7	420	120	297	Surrey 1		305	1659	19355
Corresponding period in	1910	925		1121	2	15	225	713			331	927	8424
	1909	848		1130			354	1310			464	1169	10404
	1908	709		952	8	112	513	1632			636	1397	7664

Board of Agriculture and Fisheries, August 15, 1911.

Parasitic Mange (outbreaks)

IRELAND. Week ended Aug. 12		1	5	...	...	...	...	2	4	3	18
Corresponding Week in {	1910 ...	...	...	...	...	...	...	2	1	2	32
	1909 ...	2	2	...	...	...	...	1	...	3	4
	1908 ...	...	...	...	...	...	...	3	1	1	14
Total for 32 weeks, 1911 ...		7	12	...	...	2	3	47	250	84	1477
Corresponding period in {	1910 ...	5	8	...	...	1	2	45	345	69	1658
	1909 ...	5	5	...	...	...	...	63	305	78	1326
	1908 ...	5	8	...	...	...	...	29	272	127	2711

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 14, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Inspection of Show Dogs.

Trouble seems to have arisen between the Kennel Club Committee and the veterinary surgeons with reference to the examination of dogs at dog shows. At a big London show last month the veterinary surgeons refused to allow a number of dogs admittance, because of the signs of some disease.

It appears now that two dogs belonging to one kennel were found to be suffering from some skin disease, and two veterinary surgeons who examined them came to the conclusion that it would not be safe to allow them to be benched.

The owner, not being satisfied, lodged a complaint at the Kennel Club, but in his complaint only mentions one dog, while the veterinary surgeons in their report mention both dogs, and say that, in their opinion, as the two dogs came from the same kennel it was not safe to admit either to be benched.

It seems extraordinary that the Kennel Club Committee, in upholding this exhibitor in his contention that the one dog was not suffering from the skin disease, fail to mention about the other dog.

If the Kennel Club Committee overrule one of their own rules, how can they expect the general body of exhibitors to abide by laws made by them.

If the Kennel Club Committee do not stand by the veterinary surgeons—and the veterinary staff at this show were all men with long experience and specialists in the diseases of dogs—what assurance can exhibitors have that dogs suffering from all sorts of diseases will not be benched at these large shows. It would simply mean that large dog shows would become a hotbed of canine diseases.

The dogs at any of these large shows, where 1,500 to 2,000 dogs are benched, are worth from £150,000 to £200,000, and numbers of these dogs would lose their lives simply because the veterinary examination had become a farce, examining "vets" not having the power to refuse a dog they suspected was diseased.

It is in the early stages of most canine diseases that infection is most probable. In distemper for instance, it is in the early stage that contagion is dangerous, and all the authorities on this disease state that the dog should be at once isolated.

This question is a most important matter for exhibitors, and for the general public at large. It is a well-known fact that a person handling a dog in the early stages of distemper can carry the disease for such a time that any dog being handled afterwards—though it may be some hours later—would in all probability contract the disease.

THE "VET'S" DEFENCE.

The veterinary surgeons in their report distinctly say that if they had permitted these two dogs to be benched they would have been guilty of gross negligence and unworthy of the confidence of the exhibitors.

If any exhibitors had lost a dog through the "vets." allowing a dog to be benched, knowing full well that he was suffering from a contagious disease they would be liable to be prosecuted, and the exhibitor could claim the value of the dog.

Further, they would, under the veterinary surgeons' rules, be liable to be struck off the rolls of the Veterinary College.

In face of all this, the Kennel Club Committee inform these veterinary surgeons that, in their opinion, the dog mentioned was not suffering from any skin disease of a suspicious character, and that the owner was justified in bringing his complaint before them.

RELWOF.

—The Evening Times.

College Crest Appeal Fund.

Dear Sir,

I herewith enclose list of subscriptions received towards the Fund. May I ask those of your readers who have promised subscriptions to forward them as soon as possible. I am informed that the L.C.C. has retained an eminent counsel for the case, and it is very desirable that our preparations for the defence of our privilege should be adequate.—Yours faithfully,

HAROLD A. WOODRUFF.

Royal Vet. Coll., Camden Town.

August 16.

LIST OF SUBSCRIPTIONS.

The National Veterinary Association	£5	5	0
Publishers of <i>The Veterinary Journal</i> and <i>Veterinary News</i>	2	2	0
Mr. William Bower	1	1	0
F. G. Sampson	1	1	0
James Gosling	1	1	0
William Hunting	1	1	0
W. E. Ison	10	6	
Charles Roberts	10	6	
Arthur Jacobs	5	0	
	£12	17	0

OBITUARY.

THOS. G. SHERWOOD, M.R.C.V.S., New York City, U.S.A.
Graduated, Glas : April, 1883.

Veterinarians, not only in New York City, but throughout the country, will be shocked to learn of the sudden and violent death, on July 24, of Dr. Thos. G. Sherwood, of New York, who has long been recognised by his colleagues in that city and generally as an authority on canine diseases. Dr. Sherwood was driving an automobile, accompanied by his wife, when the machine skidded and plunged over an embankment. Mrs. Sherwood sustained cuts on the hands, face and body, and suffered from shock; but was not seriously injured.—*A. V. Rev.*

WM. WORTHINGTON, M.R.C.V.S., Wigan, Lancs.

Edin : April, 1863.

Mr. Worthington died on August 8th at "The Glen," Shevington. Aged 70 years.

Personal.

Prof. W. O. WILLIAMS, of Liverpool, has been appointed Veterinary Referee to the forthcoming Dublin Horse Show.

With reference to the announcement from Capetown that, after exhaustive experiments conducted in Griqualand East, a method had been discovered of rendering cattle immune from East Coast fever, we learn that the veterinary surgeon in question is Mr. F. Chambers, son of Alderman T. Chambers, M.R.C.V.S., of Dudley. It will be remembered that he had a brilliant college career.

The decision of Dr. J. G. Rutherford, C.M.G., to forsake the Department of Agriculture, for the broader and more ambitious field of politics, will be heard with a feeling of pleasure, tinged with regret. Although the great and growing province of Alberta, which it is said will be the scene of his political activities, needs men with the weight, vision and statesmanship of J. G. Rutherford, yet Canada as a whole can ill afford to lose the services and genius of the man who has so faithfully and capably filled the position of live stock commissioner of the country during the past few years.

Countless instances could be related of his genius and

ability in righting live stock troubles that promised to blight the great pursuit. Perhaps one of the greatest tributes to his worth as a man and a servant of the agricultural interests of the country was witnessed last week when a delegation composed of the leading live stock men of the country waited upon him in a last vain effort to have him reconsider his determination to resign. The clamor which has gone up from the farmers from one end of the country to the other, and the hundreds of communications to the Minister of Agriculture asking that his resignation be not accepted, attest his worth and popularity.

What will be Canada's loss will be Alberta's gain. For few men in Canada have a broader grasp of national politics. His health was never better, and therefore it is hoped that the province to which his great gifts will in the future be devoted will enjoy and appreciate his services.—*The Ottawa Evening Journal*.

PROFESSIONAL FEES.

Sir,

Your correspondent "Rusticus" candidly admits he does not keep an infirmary, therefore the conclusion must be come to that he does not know anything about the conditions of keeping one. As a rule the most caustic critics are those who know nothing about the subject they criticise. "Rusticus" insinuates my letter was prompted by spite and stupidity, but does this not again show his ignorance, especially as Mr. Pope neither mentioned the name nor address of the "successful firm."

It is not a question how much an animal costs to keep, but how much should a veterinary surgeon charge for his skill and trouble that he might live reasonably and allow his confrères a chance in the struggle for existence. The motto of the older Englishman was, and that of the modern trade unionist is—"Live and let live." This motto has been well illustrated during the past week, where the British workman has shown "Unity is strength."

Is it not more remunerative to visit a cat or a dog at 2/6 (many charge 5/- and upwards) than keep and treat one with a certain amount of trouble and perhaps the risk of damage to one's reputation at 4/6 per week? Again, is it not more economical and profitable to castrate one colt at 10/6 than perform on two for 5/-, or even 3/6 each? The avaricious man will do it at any price so as to keep his neighbour out. Such a one even sometimes takes in non-professional pupils and teaches them castration, etc., for a fee, and then turns them adrift to compete with neighbouring practitioners. I hope "Rusticus" is not like this. However, unqualified men and quack medicine vendors often charge more than duly qualified and registered practitioners.

The probable explanation of the fee of 10/6 as charged by Mr. Pope is, this gentleman gives more time and attention to his patients and spends more on space, soap, and water than his confrères who charge 4/6.—Yours, etc.,

"VIS UNITA FORTIOR."

REMEDIES FOR FLIES.

Sir,

Oil of sassafras possesses marked insecticidal properties. It contains on an average 80 per cent. of Safrol, with small amounts of Pinene, Phellandrene, together about 10 per cent.; Dextrocampa 7 per cent., Eugenol about 0.5 per cent. and Cadinene.

Camphor oil is the most common adulterant of Sassafras oil, as it contains all the constituents of the latter.

An unusual case of poisoning by Oil of Sassafras is recorded in *The British Medical Journal*, February 25, 1911. The oil was applied rather copiously to the back of a healthy Scottish terrier dog which had become infected with pediculi, and the application was repeated several times during about a week. The result on the dog was to make him ill, and he refused his food and became very weak.

A veterinarian who was called in told the owner that he thought the dog was poisoned and that he had seen two similar cases to this one. In all three cases absorption had taken place through the skin and not by the dog licking himself.

The dog eventually died about a week after the last application of the oil. Post-mortem it was found that the liver and kidneys were congested, the former being considerably enlarged.

Another useful insecticide is *Ol. Betulae alb.* (B.P.C.) which is non-sticky and easily incorporated with lard.

To clear stables, cowsheds, and other places of flies, the following solution should be placed in shallow trays in various parts of the building:—Solution of Formaldehyde 6, beer 13, and simple syrup 1. The latter remedy was given in *The Pharmaceutical Journal* recently.—Yours, etc.,

W. J. YOUNG, F.R.C.V.S., D.V.S.M. (VICT.)

Sheffield, Aug. 14.

SHEEP AND WATER SUPPLY.

Sir,

I should like to call the attention of some of the readers of *The Veterinary Record*, especially veterinary students and newly qualified men, to the discussion on Prof. Craig's excellent paper—"Some notes on the passage of fluids through the stomachs of ruminants," delivered before the Veterinary Medical Association of Ireland. The report of this meeting was in your last week's issue, Aug. 12.

In the discussion, Mr. Howard said "it is a common thing to find sheep in various parts of Ireland that have never been known to have a drink of water, and they do well and are perfectly healthy."

Mr. A. Watson said that, "he thought he was right in saying that sheep as a matter of fact did not drink water. It was a symptom that they were unwell when they took to water."

I consider the above expressions erroneous and misleading, more so because they have been used by two well known veterinary surgeons. I really think that unless we have fair knowledge of the natural habits of the animals we treat, we are of very little use to our clients. On the other hand, if we have a real knowledge of the natural mode of living of our patients, this knowledge in time "converts itself into practical power." I hope Mr. Wallis Hoare in his book on Veterinary Medicine will deal more fully with sheep than the books which we have already seen on veterinary medicine.

May I tell Messrs. Howard and Watson that there are hundreds of sheep in this neighbourhood suffering through the lack of water supply on the pastures. One of the most important questions of the sheep farmer is about the water supply on the farm, especially on a summer like this. At the time of writing this short letter, I see several thirsty ewes imbibing at a little stream which runs through one of our fields. During a dry summer like this, water is as essential to sheep as it is to cattle, although they don't get access to it as often as cattle.

If any reader doubts the accuracy of the above statements, I should like him to drive a flock of sheep along the road near a running brook, and notice whether they will drink of the water. As sheep are very timid little animals, the dog ought to be kept a good distance from them.

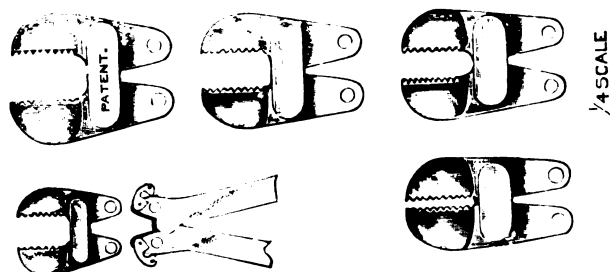
The stomach of the sheep contains as much fluid contents when opened, as the stomach of the ox, in proportion to the size of the animals. Again, the sheep perspires more than the ox (according to some physiologists the ox does not perspire, this theory is absurd, which I hope you will all agree). Therefore if the same quantity of fluids (in ratio to the size of each animal) is found in the stomach of the sheep and the ox, whilst the sheep perspires more than the ox, the sheep according to every reasoning, must drink as much, if not more water than the ox.

I hope this short letter by one who has been managing a large flock of sheep for twenty years, will stimulate some of our members to bring an interesting paper on sheep before our Veterinary Associations, the same as Professor Craig did.—Yours faithfully,

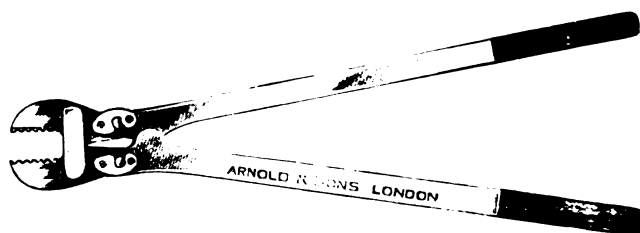
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SESSION 1911-12.

The Winter Session will commence
on Monday, October 2nd,

When the Chair will be taken by
LEONARD BRASSEY, Esq., M.P., and the
INTRODUCTORY ADDRESS delivered by
STEWART STOCKMAN, Esq., M.R.C.V.S.,
Chief Veterinary Officer to the Board of
Agriculture and Fisheries, at 3 p.m.

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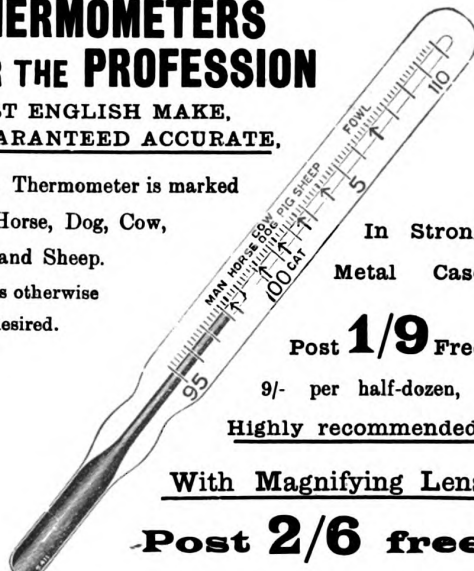
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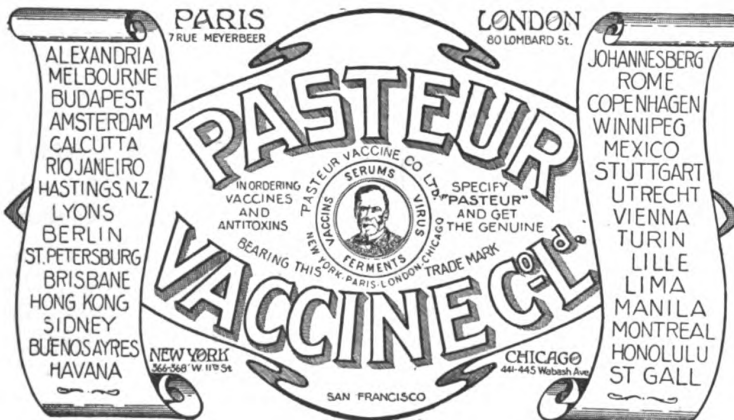
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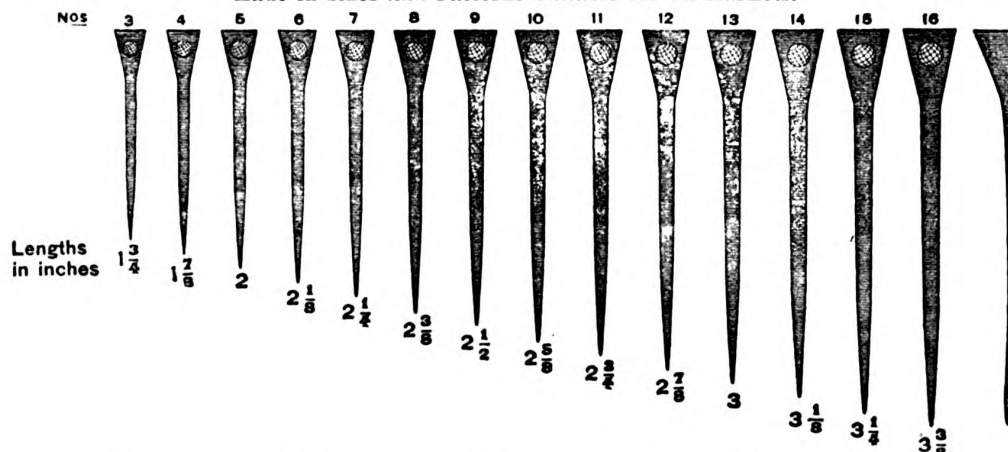
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CLASS C student, 26, married: 10 years practical experience, and excellent testimonials, seeks situation as locum or assistant. Address, "Locum," c/o W. Barron, Esq., M.R.C.V.S., Hooton, Cheshire.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1207.

AUGUST 26, 1911.

VOL. XXIV.

DISEASES OF ANIMALS IN GREAT BRITAIN, 1910.

The Board of Agriculture has issued the Annual Report of the work done in 1910, and although some of it is rather stale there is a great deal both interesting and useful.

"No outbreaks of Cattle-plague reported since 1877.
No outbreaks of Pleuro-pneumonia reported since 1898.

No outbreaks of Rabies reported since 1902."

That alone justifies a Veterinary Department. Other diseases we have with us still.

Foot-and-Mouth Disease appeared last year in Yorkshire in one of those unaccountable outbreaks which cannot be traced, and which are liable to reach us whenever the disease is very prevalent in Western Europe. If one looks back to the time when the disease prevailed in this country some idea may be formed of the danger these small invasions possess and the enormous loss which is prevented by the energetic action of the Board in stamping them out with rigour and dispatch.

In 1883 no less than 461,145 animals were attacked with Foot-and-mouth disease—cattle, sheep, and pigs. By 1887 the country was cleared.

In 1892 disease appeared and lasted for three years affecting 5065 animals. In 1900 Foot-and-mouth was again reported, and was not got rid of till 1903.

In 1908 a small outbreak occurred, and in 1910 a still smaller. It is very satisfactory to find that such a disease, which we cannot entirely keep out of the country, should be so rapidly stamped-out.

Swine Fever is the *bête noir* of the Board. In 1910 there were 1598 outbreaks—about the same number as the average yearly returns for the previous nine years. The Chief Veterinary Officer discusses the disease very briefly, mainly in reference to the difficulties of diagnosis, but he is silent on some subjects only because the Departmental Committee had not yet reported. We may therefore expect in next annual report some larger reference to the difficulties which the Board has failed to overcome.

The Assistant Secretary in his report is not very optimistic. He says: "It must be admitted, however, that the position generally leaves much to be desired, and it is not easy to see how any substantial improvement is to be brought about in the near future."

Anthrax. The outbreaks of this disease in 1910 reached 1496, showing a gradual increase since 1906, with the usual 1.1 per head per outbreak. The present report is the last which will deal with

the disease under the Order of 1899. The operation of the New Order will afford some interesting comment in next year's report. The Assistant Secretary says: "It is believed that the new Order will be of service in securing the collection of more trustworthy statistics to form a basis upon which to build up any other measures which further experience may indicate as likely to reduce the risk of infection."

Sheep-scab. The number of outbreaks in 1910 was 556, that is 129 fewer than in 1909. Wales comes first with 237 outbreaks, then England with 204, and Scotland with 115. It seems the regulations are doing good. An investigation into the epizootiology of the disease which was outlined in the report for 1909 is being carried out. It would be inadvisable, however, to report further at present, as the enquiry is not completed. We believe the enquiry has elucidated some important questions concerning the cause and spread of sheep-scab.

Glanders.—This disease is certainly yielding to the action of the 1907 Order, which came into operation on Jan. 1, 1908. The figures are as follows:

	Outbreaks.	Horses attacked.
1908	789	2433
1909	533	1753
1910	351	1014

The number of horses attacked seems large, but it must be remembered that a large proportion of these were discovered by mallein, and that few of them were infective when slaughtered. The trustworthiness of mallein as a diagnostic agent is shown by the Chief Veterinary Officer's report, which says "In six reactors no lesions could be found at the post-mortem examination. In only one case was no reaction obtained to mallein, although glanders lesions were found on post-mortem examination. Under the provisions of Article 9 of the Order, the nature of lesions was disputed by the owner's veterinary surgeon in four reactors to the test, and the cases were submitted to the veterinary officers of the Board for decision; glanders was not confirmed in any of these cases.

Some pages are devoted to the work done in the laboratory, which we shall leave for fuller quotation than can be given on this page.

Exportation of horses. Since the 1st of October last the Board has taken over the regulations governing the shipment of horses to the Continent. It appears that this traffic is now carried on under very improved conditions, and that even the inland transit of horses has improved owing to the action of the inspectors and of the railway companies.

Altogether the report may be accepted as satisfactory. If the Board has not always been successful in its efforts to control disease it has done much, and its officials face their work with knowledge and with a determination to master their difficulties.

FRACTURE OF TIBIA IN SIXTEEN YEAR OLD HORSE—RECOVERY.

Subject. Three-quarter bred stallion, sixteen years old. A well known Colonial sire, his progeny having won numerous prizes.

History. Found in the stable with a broken leg, probably caused by getting his leg under a swinging bale. Seen by me a few minutes afterwards, and fracture of tibia diagnosed, in lower third of bone without any displacement.

I advised immediate destruction, but the owner was so keen on having a try to patch him up for one more season, that—much against my better judgment—I resolved to make an attempt.

Treatment. Being situated in a small up country town, this was somewhat "rough and ready" but we managed to improvise quite a serviceable set of slings out of wool bales padded with sheep skins. The animal was placed in these, and the injured leg bandaged from the stifle to the hock with stout canvas bandages, over which ordinary melted pitch was smeared, a few inches at a time, (the limb was of course first enveloped with a good layer of cotton wool), this bandage was put on several layers thick, and set as hard as a board. The limb was bandaged with an ordinary bandage from the hock to the foot, and the other legs were also bandaged. This pitch bandage kept in place beautifully for six weeks, when it was removed. The animal was kept in the slings for eight weeks, and he was a very good subject taking to them at once and never struggling. A contrivance which I found of great service was a padded pole placed just under the buttocks; on this the horse would literally "sit" for hours at a time. Beyond two subcutaneous injections of morphia on the first two days, and occasional doses of Mag-sulph. in the drinking water, I did not trouble about medicinal treatment. A few sores on the belly and around the sheath made their appearance, but these soon yielded to ordinary antiseptic treatment.

After four weeks in the slings the horse began to put a little weight on the leg, and when the bandage was removed after a period of six weeks, he was allowed to stand on it for an increasing time each day. When he was removed altogether from the slings (after eight weeks) he was run in a small paddock, and here he used to lie down and sleep for hours at a time. At first he had to be helped up, but gradually he managed this for himself, and eventually was walked out to the farm, a distance of about nine miles. Here his recovery was uninterrupted and when I saw him again about four months afterwards he could trot, canter, and gallop with only a slight limp. He was used at the stud that season and covered twenty-five mares.

He died next year (during his owner's absence) from septic poisoning, occasioned by a wound which had not been attended to on the other leg, and I was fortunate to obtain both Tibias. The actual shortening was $2\frac{1}{2}$ inches, and it was surprising to see how little this affected the animal's gait during life.

I am sending you these notes to demonstrate the fact that it is worth while making an effort to save valuable stud animals in cases of simple fracture, when no complications are present. I know the animal's disposition has a lot to do with it, as when they "fight against the slings" treatment is hopeless from the start, but I cannot help thinking that we are sometimes a little too ready to advise destruction.

A. GOODALL, M.R.C.V.S., Govt. Vet. Sur.
Kokstad, E. Griqualand.

A PECULIAR CASE OF STRANGLES.

As a result of the numerous articles which have appeared latterly in connection with streptococcic infections, a positive stimulus has been provided to many of the subscribers to our interesting and increasingly scientific journals to report matters of bacteriological importance, a result which should be looked upon with satisfaction by the profession generally, but more especially by the Colonial veterinarian, to whose lot falls a bewildering and chaotic fundament of bacterial diseases.

The accompanying photograph is of a three year old black gelding, and illustrates the subject of the case I wish to record. The following are the facts of the case. I was asked a few months ago by my *confrère*, C. V. S. Goodall to look at this gelding. He had a strangles abscess deeply situated in the gluteal muscles, which had been opened, and drainage and irrigation provided for. He had at the same time an abscess in the off knee joint which had already begun to point. A guarded prognosis was the result, but grave doubts existed in our minds as to the probability of its future being rosy. This suppurating condition was relieved somewhat by my abscess knife, and directions given as to treatment, which comprised Lugol's Solution locally and Iodide of Potassium generally. He was, however, allowed to wander about on the veldt, and housed at night. The wounds receiving daily dressings.

A microscopical examination of the pus revealed streptococcic chains.

Last week my attention was again drawn to this case as he was not progressing satisfactorily. Suppurative arthritis with ankylosis with extensive osteophytic deposits had resulted, whilst a partial break down had occurred in the near limb as a result of saving the other. We advised destruction. The internal organs and abdominal parietes seemed, on a cursory examination made under a blazing sun, free from streptococcic foci. I accordingly removed the affected joint and on a careful dissection being carried out, numerous pus centres existed in the interior of the joint, with gelatinous infiltrations into the softer tissues, and osteophytic deposits accompanied by ankylosis of the smaller bones.

G. T. HENDERSON, G.V.S.
Kokstad, East Griqualand.



CASE OF STRANGLES.
Note by G. T. Henderson, G.V.S.



FRACTURE OF TIBIA IN SIXTEEN-YEAR-OLD HORSE.
Note by A. Goodall, G.V.S.



SOME QUERIES WITH REFERENCE TO CERTAIN GASTRIC AFFECTIONS OF RUMINANTS.

By E. WALLIS HOARE, F.R.C.V.S.

Being engaged at present in the preparation of a section on "Diseases of the Digestive Organs in the Ox," I should feel greatly obliged if practitioners having experience in this subject would give me some information on the following points:—

(1). Does impaction of the Omasum occur as a disease *per se*?

Most text books describe this disease, giving symptoms, diagnosis and treatment.

The late Prof. Williams, however, (Principles and Practice of Veterinary Medicine) doubted its existence as an affection *per se*, and pointed out that it was generally associated with inflammation of the abomasum, and that the impacted condition of the omasum was the result of disease of the other divisions of the stomach. Careful post mortem examinations should decide the question.

So far as my experience goes, I have always found inflammation of the abomasum associated with an apparent impaction of the omasum. I say apparent, because it is difficult to decide what is the normal condition of the omasum; I have seen this organ with the contents varying from a soft condition to a hard and dry one, in animals that did not suffer from any gastric affection.

Again, when one considers the large doses of irritant purgatives that are generally administered to cattle prior to professional attendance being obtained, it is not surprising to find inflammation of the abomasum present. If impaction of the omasum really occurs to the extent described by some writers, the organ being hard and tense and the contents hard and dry, can anyone explain how medicinal agents can overcome the condition?

Judging by the anatomy of the organ it is difficult to see how the heroic doses of Epsom Salt, Aloes, Linseed Oil, etc., can clear out the hard contents, and have we any evidence that these agents during their passage through the viscus exert any action thereon?

We draw deductions from the condition of the organ after death, but in the cases that recover we cannot definitely state what actual derangement was present. No doubt "Impaction of the 'Book' Stomach" is a very favourite diagnosis, and heroic measures are often adopted in order to overcome the condition. It is not uncommon to find that after large amounts of raw linseed oil are administered to cattle, suffering from a paralytic condition of the stomach, no purgative effects are produced.

And the quantities of this agent that can be given to cattle under these circumstances is surprising; one is often anxious to know where it goes to. Farmers often remark, "The oil is passing through the animal, but she is not purging." It would be interesting to ascertain whether large doses of linseed oil do enter between the leaves of the omasum, and cause softening of its contents.

In connection with this subject; one would also like to enquire—what is *Murrain*? We hear of "Dry Murrain" and "Red Murrain," and the terms seem to be applied to every obscure disease of the stomach of the ruminant. So far as I can judge the terms should be expunged from the nomenclature of diseases; they resemble Blain, Gloss-Anthrax, and other indefinite words which are purely mythological, and are simply a cloak for ignorance.

If there is such a disease as "Impaction of the Omasum," surely it can be designated as such; if, on the other hand, it is a condition resulting from inflammation of the abomasum then it should not be described as a distinct affection. If the matter cannot be definitely decided, then we may as well confess our ignorance, but we should avoid using a term such as Murrain which is without meaning, and is in the same category as that favourite term, "Worm in the tail." Both possess a mystic significance for farmers and cover a multitude of diseases.

(2). The next point on which I desire information is with reference to the etiology of *gastritis* in cattle.

Inflammation of the abomasum is a very common lesion at post mortem examinations, yet can we account for its presence? No doubt we can glibly enough inform the stock owner that it is due to coarse indigestible grass, etc. But how much of this coarse ingesta enters the abomasum?

In William's Veterinary Medicine, the ingestion of large amounts of rye grass is recognised as an etiological factor, but we meet with a large number of cases in which this factor was not present.

Again, it is a well-known fact, that gastritis in cattle is not always accompanied by nervous excitement or delirium; the leading symptoms being, loss of appetite, and of rumination, obstinate constipation, and the presence of a grunt. But these symptoms are common to a variety of gastric disorders, and are also present when a foreign body causes obstruction to the opening of the oesophageal canal into the omasum.

(3) In a case of impaction of the rumen that is treated successfully by the administration of full doses of purgatives, how are the contents of the rumen disposed of?

Some may say the answer is obvious, viz., rumination goes on in the usual manner. But in an impacted rumen such as we observe at a post-mortem of a case of this affection, one naturally wishes to know how the purgative acts in the cases that recover.

No doubt the impaction is not so severe in the latter instance, still, if the medicinal agent administered enters the rumen and reticulum first, as experiments lead us to believe, it is not easy to explain how beneficial effects are produced.

(4) What is the diseased condition on which "spewing of the cud" depends?

I have searched all the text books and failed to find even the slightest reference to this affection. The cow apparently feeds well, but when rumination is proceeding, portions of food are ejected from the mouth, with the result that a considerable heap of ingesta is found in front of the animal. This ejection

tion of food is not continuous during rumination, but the animal suffers considerably in condition as the result of the loss of nutriment sustained.

I have only met with two cases of this affection, and from enquiries it does not appear to be of frequent occurrence. I should be very pleased to obtain further knowledge of the subject.

In conclusion, I may remark that the thanks of all clinicians are due to Prof. Craig for the very instructive experiments he has carried out with a view to elucidate some facts in connection with the passage of fluids in the alimentary canal of the ruminant.

One practical deduction would seem to be that medicinal agents should be given to this species freely diluted, and for a long time I have carried this out in practice with good results.

It would be interesting to ascertain how medicines in the solid form are disposed of in the stomach of the ruminant, as it is now suggested that drugs enclosed in capsules can be administered to sheep and will exert the desired effect in cases of parasitic gastritis; tablets are also advertised for a similar purpose.

ABSTRACTS FROM FOREIGN JOURNALS.

ERRONEOUS INDICATIONS FROM TUBERCULIN.

That erroneous indications may be obtained after the use of tuberculin is undoubted, and they may be classed as real and apparent. Among the real, are the failures to react which occur in animals which do not possess sufficient anticorpin to dissociate the bacillar albumen. Those which occur when lesions are very extensive; in cases of secondary infection, and old or cured lesions.

The apparent ones cannot fairly be imputed to the disease or the tuberculin and are;

1. Tuberculin weak, too small dose, or altered.
2. Faulty syringe, or injection into muscle tissue.
3. Old tuberculin.
4. Dry tuberculin, if mixed without addition of carbolic acid, deteriorates in less than 24 hours.
5. Defective or untested thermometers.
6. Low reading due to slackness of the anal sphincter.
7. Some animals react before the twelfth hour, the reaction is transient and may be overlooked.
8. Interested persons will misread the thermometer.
9. Omission to observe other symptoms beside temperature.
10. Overtired animals failed to react.
11. Animals in heat do not give a reliable reading.
12. The body heat is affected by the quality of the drinking water, mouldy forage and similar conditions.
13. Failure to react may be brought about by dosing with febrifuges, or administration of very cold water by mouth or rectum.
14. Cold and draughty sheds will diminish the reaction.—*Tijd. v. Veeart.*

TUBERCULIN ERRORS.

A strong reaction has set in with regard to the views on the infallibility of tuberculin when injected, and the newer ocular and dermal methods are more favoured, but it is premature to cast off tuberculin on account of various errors which arise on account of the idiosyncrasy or tolerance of some animals, and probably subcutaneous injection is quite as reliable as the now more favoured methods.—*Bull. Soc. Sc. Vet.*

TUMOUR ON THE HEART OF A COW CAUSING PARALYSIS.

Foss was called to a cow which the day before, on returning from pasture, suddenly staggered while eating, fell and could not rise. She lay thus for five days, when, having no hope of cure, and on account of the poverty of the owners, he advised its being carted to the slaughterhouse.

Temperature, appetite, and digestion had remained normal. Sometimes the cow became worse; it lay on its side, groaned, moved its feet and threw its head back. Ice to the head improved matters, sometimes it tried to rise, but the front legs were powerless. Unfortunately examination of the heart could not be properly carried out owing to the recumbent posture, but one could feel its weak beats and the number of pulsations was normal. Treatment with several drugs, including strychnine hypodermically, was of no avail.

Post-mortem examination revealed a tumour upon the edge of the atrium and left ventricle, it was oval, 10 cm. long, 6 to 7 cm. wide; the capsule of the tumour was fibrous, 2 to 3 mm. thick; section along the ventricle showed that the tumour continued downwards and surrounded the papillar muscle changing it to a firm cheesy mass, owing to this alteration the muscle lost its function. The mass was partly calcified. At the lower part of the tumour was some thick creamy pus. The whole capsule of the tumour was packed with a firm caseous mass of the colour of cream and the consistency of mortar.

Possibly a particle of the chalk had escaped, and circulated to the brain, causing a thrombus accountable for the paralysis. All the other organs and vessels were normal. What was the origin of the tumour? Was it tubercular? Although bacteriological examination was negative.

(From the Russian author's original Esperanto).
F. E. P.

PAPILLARY EPITHELIOMA OF THE BLADDER IN A PIG.

Schultze, of Storkow, records the following unusual post-mortem observation upon a pig. The animal, a well-bred one of about six months old, had died suddenly; and the history was that it had always fed well and appeared healthy, except that of late it had urinated frequently, and that sometimes the urine had been red in colour. No importance had been attached to this, on account of the good general condition of the animal.

Externally, the carcase showed nothing abnormal. Upon section, the organs of the thoracic and abdominal cavities showed no morbid lesions, except that they appeared very anæmic; which, in view of the good condition of the animal, was surprising. Special attention was given to the urinary apparatus, on account of the history.

The kidneys and ureters were normal. The bladder, on the other hand, was much enlarged and tensely filled. When it was manipulated a small quantity of blood-coloured urine flowed from the urethra; and a moderate amount of similar urine escaped when the bladder was incised. A large blood-coagulum also escaped from the incised bladder; and the organ, in addition, contained two soft growths the size of the fist situated upon its base.

After washing away the blood coagula still covering the vesical mucous membrane, it appeared that the two growths arose in common from a portion of the base of the bladder rather larger than a five-mark piece. They were in part blackish-brown and in part pink in colour superficially; and had a shredded tufted structure and a soft juicy consistence. The outermost tufts had a macerated appearance. Both growths were but loosely fixed upon the tissues underlying them and could easily be detached from it; when this was done, their places of origin also showed a tufted appearance. The great richness in blood of the growths was noteworthy. One growth was found to show a cavity about the size of a pfennig in its substance; and this was filled with coagulated blood and presented shredded, blood-saturated edges. The vesical mucous membrane showed no other lesions; but the wall of the bladder was greatly thickened, which the author attributes to muscular hypertrophy from exertion.

Microscopically, the tufted growths showed an epithelial structure, with a rich supply of blood vessels. The neoplasm could therefore be indubitably classed as a papillary epithelioma of the bladder. Death had occurred from hæmorrhage into the bladder in consequence of the rupture of one of the larger vessels of the neoplasm.—(*Berliner Tier. Woch.*)

W. R. C.

[The age of the subject is a noteworthy feature of this case.—TRANSL.]

TRANSVAAL VETERINARY MEDICAL ASSOCIATION.

The seventh annual meeting was held at Johannesburg on July 8th. The following officers were elected for the ensuing year:—

President.—Mr. C. E. GRAY, P.V.S.,
Box 434, Pretoria.
Vice-President.—Mr. J. G. BUSH, G.V.S.,
Box 83, Krugersdorp.
Treasurer.—Mr. J. M. CHRISTY, Assist. P.V.S.,
Box 434, Pretoria.
Hon. Sec.—Mr. P. CONACHER, G.V.S.,
Box 877, Johannesburg.
J. G. BUSH, Hon. Sec.
Box 83, Krugersdorp.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

(Concluded from p. 127.)

"THE EPIZOOTIOLOGY OF ANTHRAX."

DISCUSSION.

Mr. GOLD said:—In the first place he would like to say how very pleased he was to the present when Mr. Stockman read his paper, which could not fail to interest anyone who was at all interested in his profession. He had very little to comment upon so far as the paper itself was concerned, and he trusted Mr. Stockman would not think he was diverging too far from the subject if he touched upon some things a little foreign to it. In connection with the diagnosis of anthrax, he thought that with the facilities they had at their command, in the vast majority of cases if they were called in in reasonable time there should not be very much difficulty in diagnosing whether it was a case of anthrax or not. There was, however, one thing he took exception to, and that was the wording of the Order of the Board of Agriculture, because veterinary inspectors were looked upon as though they could go up to a dead animal, take with them a microscope at all times of the day and say at once definitely whether it was anthrax or not. Personally, he did not think any veterinary inspector would attempt to put himself in that position. He knew the word used in the Order was "suspected," but in some counties every dead animal was suspected that had not been seen by a veterinary surgeon, whilst in other counties that was not the case. Only a fortnight ago the police in a certain district thought there was no reason to serve notices till the veterinary inspector had been down to certify that it was anthrax. In the next county when a case was reported the police at once served notices on the owner of the animal that it was a suspected case. He should like to know which way of carrying out the Order was the correct one. As to the question of whether recovery took place, he thought there was no doubt whatever about it in the case of pigs, but he would like to know whether Mr. Stockman had ever seen cattle and sheep recover from anthrax where he was perfectly certain by a microscopical examination that the animals were suffering from the disease. He knew it was very difficult to demonstrate the bacillus of anthrax in the blood of live animals such as the horse, which suffered for hours and hours before he died, but after death one was able to find some of the bacilli, though it was a difficult matter to find them in blood taken from the extremities. In some of those cases he had been able to make cultures, and in a few days satisfy people that it was a typical case of anthrax. He mentioned that fact, because they were often asked to decide on the spot whether it was anthrax or not. If there was any fear of mistaking it for blackleg, the microscope could be brought to their aid. Mr. Stockman said he had seen the bacillus of black-quarter in the blood, and it would be interesting to know at what period in black-quarter prior to death was he able to demonstrate the organism of black-quarter in the blood itself. He (Mr. Gold) had never been able to demonstrate it from the blood stream while the animal was alive. Mr. Stockman said it might be mistaken for malignant œdema, and he (Mr. Gold) thought it was so mistaken. He would therefore like to know whether Mr. Stockman, in the course of his wide experience, had come across many cases of malignant œdema in the cow. Mention had been made by the essayist of what was called the M'Fadyean reaction. He (Mr. Gold) had never had the chance of asking Sir John M'Fadyean, but he found that they got this peculiar reaction in fresh films of the blood, and even for

some considerable time after the animal had been dead; but there was no reaction when taken from cultures; and he would like to ask whether Mr. Stockman had noticed that fact.

Mr. Gold proceeded to criticise the Order of the Board of Agriculture in some of its details, especially commenting upon the different interpretation put upon it by the police in different counties. He cited the case of a farmer whose whole shed was shut up, and as the man was milking fifty cows it was a very great inconvenience and even hardship to him, without being of any practical value. He thought if a small area on each side of the affected beast was isolated it was quite sufficient, care of course being taken that none of the other animals came into contact with the spot that was isolated. With regard to the burial of anthrax cases, they were asked to plug up the external orifices, and he thought the best thing to do in the case of the nose and mouth was to put the whole head in a bag. Incidentally, he complained that the authorities sometimes permitted delay in the disposal of the carcass. In his opinion burial or cremation should take place as soon as possible. On one occasion the carcass was placed ready for burning, but because the Chief Constable had ordered cremation should be between the hours of six in the morning and six at night it had to wait exposed before a match was applied. He thought that was red-tapeism, and with the possibility of rats or even dogs getting at the carcass there was a grave danger of the disease spreading in consequence of the delay. With regard to the notification of anthrax, they were generally expected to send a portion of the blood to the county analyst as well as to the Board of Agriculture. Veterinary inspectors recognised the need of being responsible to one particular body, but they would like to know which it was. This was the first time the Board of Agriculture had taken over directly the last word in connection with anthrax, and he sincerely hoped there would be no friction between the local authorities and the Board or between the local inspectors and the Board inspectors. They all knew what had happened in connection with swine fever, and he hoped different tactics would be employed by the Board with regard to anthrax. If a man was not fit to be a veterinary inspector do not hesitate to say so. It was not conducive to the welfare of any local practitioner to find that when a pig died his voice was ignored, and some gentleman 20 or 30 miles away was brought in and perhaps he could not say himself. When a stranger was brought into a practitioner's district, the latter's client thought a slight was intended, and wondered what it meant. Now that the Board of Agriculture had taken anthrax up in the way they had he hoped there would be no cause for complaint amongst practitioners, as there had been in the case of the swine fever regulations.

Mr. R. OVER, quoting from part of the paper, said he had always understood that if one found "enlargement of the spleen with a fluid tar-like appearance of the pulp" one could make up one's mind that it was anthrax. He had examined many cases that had the outward appearance of anthrax, but he could not find the bacillus under the microscope. One case which he first suspected to be anthrax turned out to be abdominal tuberculosis, the cow being in a remarkably good condition, but complicated with heart trouble. Another case proved to be yew poisoning, another was poisoned by deadly nightshade, and yet another sudden death was due to lead poisoning. In the lead poisoning case there was nothing to point to lead as the cause of the trouble at first, and an examination of the blood revealed something unusual. He sent it with a doubtful report to the bacteriologist, who reported that it was anthrax. He (Mr. Over) was afterwards able to prove that it was not anthrax at all, but lead poisoning, Prof. M'Fadyean confirming his belief that it

was not anthrax. That went to prove that one did not always get a satisfactory report from the county bacteriologist, and also that the diagnosis of anthrax was not by any means a simple matter. The Order relating to the time of burning carcasses did not exist in his district now, although he believed it did at one time.

Mr. MARTIN considered the paper a thoroughly practical one in every way, and it would certainly prove very helpful to him in many respects. He was an inspector of the Shropshire County Council, and when he saw a case which he suspected to be anthrax he sent it immediately to the Board, but if he did not suspect anthrax he filled up a different form and sent it to the Chief Veterinary Inspector.

Mr. BROOKE said he would like to know whether it was possible to get acute colic in cases of anthrax without gland or throat symptoms. He remembered reading in *The Record* about 12 months ago that anthrax in the horse was much more frequent than was commonly suspected. If Mr. Stockman could give them any particulars about anthrax in horses it might help some of them in their practice. In mentioning counties where the disease was prevalent he would have thought Yorkshire would be included, because hides and fleeces were largely imported into that county. Mr. Stockman said that in the case of human beings it was nearly always directly inoculated through the medium of a wound. Could not the fly be a carrier of the disease? They all knew how flies swarmed round a carcass, especially in the warm weather. With regard to treatment he thought the serum treatment in animals that were highly immunised would be the safer mode, especially it could be developed. He quite agreed that foreign foodstuffs were a common source of infection.

Mr. DEVINE said that Mr. Stockman, in speaking of the diagnosis of anthrax, placed some value on the taking of the temperature of cows in byres. He (Mr. Devine) used to do that, but he had come to the conclusion that it was not of any great value, because even where there was no disease at all there were always some cattle in a byre of any size that were of high temperature. The temperature might be high from a totally different cause, and it was no evidence whatever that there was anthrax. He had not seen many cases of anthrax in horses, but in such as he had seen he had found the bacillus in the blood itself. He had made cultures, and he had also stained the bacillus, when he had always got the reaction referred to by Prof. M'Fadyean. He had tried various colours, and agreed that Methylene blue was the stain with the best diagnostic value. Anthrax had been so well studied in recent years that most of them were now pretty well up in the subject, except perhaps as to the origin of the outbreak. It was quite feasible that it came from abroad in foodstuffs, and it was possible that it was sometimes contained in bone manures, especially as those bone manures were often got in the district where the animals had died from all sorts of diseases. Whatever protective measures they employed they had no guarantee that they had accomplished any real good. If they got an outbreak year after year and then used antitoxin successfully, they were no doubt satisfied that they had done some good, but in the ordinary way they never knew how far their precautions had succeeded.

Mr. MARTIN recalled the fact that Prof. McCall used to tell them that anthrax was generally seen at the end of a consignment of cake, as though the spores had fallen to the bottom, and he (Mr. Martin) was bound to say that that had been his experience also.

The PRESIDENT, in closing the discussion, said he was very pleased at the discussion, because it showed that they had all appreciated Mr. Stockman's kindness in coming to them a second time. It was a paper which he

knew many of them were most anxious to hear, and he was sure they had all gained something by it. With reference to the question of reporting sudden deaths to the police, farmers had got into such a state that when an animal was found dead they rushed off immediately and told the nearest policeman. The police took the case in hand and unless the veterinary surgeon was a duly authorised inspector he had to get out altogether. He could do nothing in the case and got no redress whatever. He mentioned a case of police interference where they even stopped the man from selling his milk, and as it turned out they had overstepped their powers, and when the man was advised to send in a bill for eight guineas the police paid it without a murmur. He agreed with Mr. Gold as to the importance of the carcass being buried or burnt at once, and said he knew of a case where the carcass was left for four or five days in the hot weather because there happened to be a delay in getting the inspector's certificate.

REPLY.

Mr. STOCKMAN, in reply, said it had given him very great pleasure to attend the Midland Association a second time and listen to this criticism of his paper, and he would like to thank the Association for the kind way in which his paper had been received. Dealing first with the remarks of Mr. Gold he was bound to say that whatever else Mr. Gold had been he had not been quite relevant. He did not object to that, but, though he would be only too pleased to furnish them with all the information in his power on the subject of swine fever and anything else, if he entered into a discussion of everything now he would not finish that evening. He therefore proposed to put aside that part of Mr. Gold's criticism which was irrelevant to the paper, but as there was perhaps some little analogy between the position of an inspector dealing with anthrax and one dealing with swine fever, so far as as the Board of Agriculture's Orders were concerned, he would not pass it over altogether. He understood the chief point in this respect raised by Mr. Gold was, that it was a great hardship to a local practitioner for a man to be appointed as veterinary inspector to operate in the district covered by another man's practice. He (Mr. Stockman) might not like it himself, but surely someone must be responsible, and unless they were prepared to adopt the only alternative, and appoint every man an inspector in his own practice, the present system of appointing certain men for certain districts must continue. He did not think it would be a good thing or practicable to appoint every man an inspector in his own practice, because, however anxious a man might be to do his duty, when the interests of the public clashed with the interests of his client, there was just the possibility that the public interest might suffer. If a man did not look well after the interests of his client he would soon lose most of his practice, and he would be worse off than ever through being a veterinary inspector. No one regretted more than the Board of Agriculture the necessity of sending a man to another's district when friction or unpleasantness of any kind arose, but he did see that these were bound to arise, and he saw no way out of the difficulty.

With regard to Mr. Gold's points on the subject of diagnosis, he gathered that Mr. Gold considered the diagnosis of anthrax an easy thing. He (Mr. Stockman) thought it was not always so easy, and he examined something like five thousand specimens a year. There were cases in which there was a distinct difficulty. There were few, if any, general practitioners who had facilities for handling material or who saw enough cases to make them experts, in the sense that he (Mr. Stockman) and assistants at the Board of Agriculture had material, and yet the diagnosis of anthrax was not always an easy matter to him and his assistants. Indeed, he knew from experiment there were many trained county bac-

teriologists who made frequent mistakes, because they did not fully understand the diagnosis of anthrax under the conditions obtaining in practice. Another point raised by Mr. Gold was that the veterinary surgeon was supposed by the Order to take his microscope with him, but as a matter of fact he need not do so. There was nothing in the Order which said he should, but personally, if he were a veterinary inspector he would take his microscope with him. Given a case of undoubted anthrax, which they went to early, in the majority of cases in cattle they ought to be able to say so at once, though there might be an odd case which they could not determine without the aid of laboratory tests, that is assuming the veterinary inspector was skilful. It was surely worth something to be able to say at once whether it was anthrax or not.

With regard to the disposal of carcasses and what had been referred to as police interference, that all depended upon how the Order was interpreted. If a policeman misinterpreted the Order, the Board of Agriculture could scarcely be blamed. He must believe that such interference as had been mentioned did sometimes arise, but the order laid down that the carcass must be disposed of as soon as possible, and the veterinary inspector who took his microscope to the case could often decide if the carcass was to be destroyed or sent to the knacker. There had always been trouble about the burning, etc., of carcasses. A local authority naturally did not want to spend money on it, and carcasses in the past had been left waiting for days while something was decided. The public very naturally complained about this, and the Board of Agriculture had since tried to meet the case by making the Order clearer. A veterinary inspector had only to say he suspected anthrax and the local authority had to destroy the carcass. If there was any undue delay in the burning of a carcass, the veterinary inspector had the remedy in his own hands. He could complain to the Board that his orders were not being carried out. Mr. Gold had asked him whether recovery ever took place in cattle and sheep when the diagnosis was really certain. He (Mr. Stockman) believed it did, but he did not believe that any animal, once its blood stream was invaded by the anthrax bacillus, ever recovered. Even if they took cattle, they would find a definite diagnosis difficult, if not impossible, until the patient had at least reached a moribund state. Given no invasion of the blood stream, however, it was possible for animals to recover, and if at this stage they were given an injection of serum recovery was almost certain. He did not think they would find anything in his paper, as Mr. Gold seemed to think, that they could find the bacillus of black-quarter in the blood prior to death, but there was often an invasion of the blood stream by the black-quarter bacillus after death. He thought Mr. Gold had misinterpreted the meaning of the malignant oedema being found in blood smears. He (Mr. Stockman) did not think malignant oedema as a disease was found in cattle except under the most exceptional circumstances, but even if malignant oedema was a disease in cattle, they would not find the bacillus in the blood before death, no more than the black-quarter bacillus, because these organisms were obligatory anaerobes, and could not multiply in the blood stream till after death. The point about the malignant oedema bacilli was that they were natural bacteria of the intestines and invaded the blood vessels after death. Indeed, he would go so far as to say that in almost any carcass, if it were left long enough, the bacillus of malignant oedema would be found. As to what Mr. Gold referred to as the failure of the M'Fadyean reaction with cultures, it was a very elementary piece of knowledge with regard to the anthrax bacillus that when it was taken from the blood it had a capsule, and when taken from a culture, unless serum was the medium, it had not; and in that fact lay

the answer to Mr. Gold's point, because the capsule was concerned in giving the reaction. As to whether it was necessary to shut up a whole shed owing to a case of anthrax, as Mr. Gold said, it was a matter for discretion, the Order said all places contaminated. Whatever part had been exposed to infection should be shut up, but if proper precautions had been taken it should not be necessary to close the whole shed of a large byre.

With regard to Mr. R. Over's point, he did not know whether it was intended as a complaint that he had told them nothing new which would enable them to diagnose anthrax during life; he would have done so if he could, but the fact remained that one had to suspect anthrax during life by the history of the case, and symptoms which were not diagnostic, as there were no definite means of diagnosing it until the patient was beyond their help, through a previous case and certain symptoms would be almost convincing. Where anthrax was suspected, but everything had been done to exclude it, he did not think there could be any exception fairly taken to a man conducting a post-mortem examination in cases of sudden death; all the Board asked was that reasonable care should be exercised. He certainly did not wish to assume that the Board and Professors at veterinary colleges were the only authorities on anthrax, but there were not many men in this country outside veterinary institutions who had had the opportunity of becoming experts in the diagnosis of the disease, as met with under the conditions of practice and who were versed in laboratory methods. If a man was going to err at all, he generally wanted to err on the safe side, and said it was a case, if he suspected it of being anthrax. Probably he (Mr. Stockman) would do the same if he were placed in the same position as a practitioner, but as a man responsible to the Central Authority and whose advice might lead to the expenditure of large sums of money for the prevention of the spread of the disease, it was incumbent upon him to base his statistics upon something more reliable than mere opinion, opinion which everyone agreed, varied in value according to the man who gave it.

Dealing with a point raised by Mr. Brooke, he said it was common knowledge that, at least in towns, the majority of cases of anthrax in horses were due to infected grain. In fact, one could often trace one or two outbreaks to a special consignment of oats. Mr. Brooke expressed surprise that the paper, in stating particulars of counties where anthrax was most prevalent, did not mention a wool-washing county like Yorkshire. He would like to point out that the table of counties only dealt with the five worst infected counties. It took a great deal of time to prepare statistics of the kind, and he had only given the most typical counties to illustrate his argument. He could not help Mr. Brooke as to the diagnosis of anthrax in horses, where there was nothing but colic, but if there was swelling of the throat as well, it was pretty certain to be a case of anthrax.

Mr. MARTIN: In the last case I saw there was no colic.

Mr. STOCKMAN: I do not say there must be colic, but it is a common symptom. A suggestion was made that he had taken too little account of how far flies were responsible for the spread of the disease among human beings. He did not deny that flies were a possible medium of infection, but he thought they might be considered a negligible quantity in epizootiology, and so he had given them little prominence in his paper. A man who was working amongst wool might make a scratch upon himself so small as to be seen by no one, or he might inhale spores. As to the value of serum for producing lasting immunity, it only gave immunity for ten days, and as it cost something like half-a-crown or more adose, it would not be very cheap to keep on giving an animal that amount of serum every ten days throughout its life. The great value of serum was in the immediate

protection it gave to animals which have been exposed to infection, or which are exposed to a risk lasting only for a few days.

Mr. R. OVER asked whether serum had been tried with success on man.

Mr. STOCKMAN answered this question in the affirmative. Continuing, he said there were many countries known to suffer a great deal from the ravages of anthrax, and if they followed the importation of food stuffs they would be able to trace a series of outbreaks apparently from food stuffs that came from those particular countries. That had been apparent in the case of Soya beans, which was a comparatively new food stuff in this country, and came from an anthrax country.

He was disposed to agree with Mr. Devine as to the small value to be derived from the taking of an animal's temperature, but was it of diagnostic value in any disease? One would hardly like to visit a case without taking the temperature of the patient, but the only value of a temperature was to make them suspicious. The temperature was not likely to tell them what the disease was, but it was a detail in diagnosis which could not be overlooked. Mr. Devine said he had always found the bacilli of anthrax in the horse's blood, and whilst, of course, he must accept that statement, he had to say that it had not been his (Mr. Stockman's) experience. With regard to the value of methylene blue, it must be remembered that these dyes varied in composition according to the manufacturer. At the laboratory of the Board of Agriculture they had always had good results with methylene blue, properly used. However, it should be remembered that if the bacillus is taken fresh from the blood immediately after death, one did not expect to get the reaction in a marked degree.

With regard to Mr. Martin's remark as to the opinion of Prof. McCall, he felt inclined to accept it as correct, especially as it had been backed by Mr. Martin's own experience, but it was a matter that was beyond his explanation, unless it was that an accumulation of spores took place at the bottom of a bin. As to what precaution should be taken in the case of a milking herd after a case of anthrax, so long as the bacillus was not in the blood stream he did not think it would invade the milk glands. The moment the bacillus entered the blood stream the animal would become in a moribund state, and certainly too ill to be milked to supply milk for food, even although anthrax was not suspected by the owner; but given a case of anthrax in a dairy herd, the temperature of all cows should be taken, and the milk of those showing a distinct rise should be excluded. As to the Chairman's point about practitioners being done out of business by inspectors being brought in from other districts, he had already tried to answer that question. He offered the suffering practitioners his sympathy, and if a better way of doing things could be suggested by the profession he was sure the authorities would listen to it. The Chairman also objected to the veterinary inspector's diagnosis being accepted in preference to the local practitioner's. The reason was that someone must be the judge, or there would be no finality. It did not necessarily follow that the inspector was always right, but he put it to him as a veterinary inspector if he would like to have the practitioner's diagnosis accepted before his own. There was only one centre to refer cases to officially, and that was the Board of Agriculture, although he understood local authorities did ask for material to be sent to other places as well, and, of course, there was no harm in that. As to the police coming on the premises, the police were a much abused body of men, and he thought any veterinary inspector present would agree that the police were very useful in cases of contagious disease. They did a lot of necessary work which a competent veterinary inspector should feel it *infra dig.* to do himself, and to do the policeman justice, it must be admitted that he was ren-

dering the authorities charged with the suppression of disease very signal service. He had no sympathy for the veterinarian who wanted to do police work, it was not his job. As to the Chairman's question about the value of vaccines in Canada, he would not like to offer an opinion. Canada had a good veterinary department of her own, and as he was not familiar with the country and its special circumstances he would rather not offer any advice. Mr. Stockman concluded by thanking the meeting once more for the kind manner in which he had been received and his remarks listened to.

The PRESIDENT moved a vote of thanks to Mr. Stockman for his paper, and especially for his coming down a second time to answer the discussion.

Mr. GOLD, in seconding this, said he would like to take the opportunity of assuring Mr. Stockman that his criticism, though perhaps a little severe, was not intended in a personal or even in an unfriendly sense, and he hoped Mr. Stockman would accept his assurance as to that.

The vote of thanks having been very heartily carried, Mr. Stockman said, in acknowledgment, that he had enjoyed the criticism, and in trying to hit back a little he had been actuated by an equally friendly spirit.

CHONDROIDS IN THE GUTTURAL POUCHES.

Mr. WOODWARD introduced an interesting case of chondroids in the guttural pouches, and produced specimens for the information of those present. He said the subject was a bay cob mare, aged seven years. She was bought eight weeks ago, and had a swollen throat at the time of purchase. The mare had been treated for strangles for three weeks, and her throat poulticed without any relief. Her appetite was suspended and no food had been taken for five days prior to her being seen by Mr. Woodward on August 1st. The mare was then very much swollen over both parotids and under the throat. The swellings were firm and hard, the temperature normal, and the pulse weak and thready, with a marked jugular pulse. The mare was unable to swallow anything, water being returned down the nostrils, and from the near nostril there was a thick nasal discharge. On August 2nd, the throat was blistered and the conditions were unchanged. On August 3rd, the mare was breathing with much difficulty, and the swelling over the parotid on the off-side was explored with a trocar and canula, only a bead of pus appearing. He cut down on the parotid swelling, breaking through the tissues with the fingers, and extracted 48 chondroids. The swelling was greatly lessened and the breathing relieved, the patient being removed to the infirmary. The dietary ordered was oatmeal gruel and eggs, and bran mash, the appetite being good. The guttural pouches were syringed out through the wound with a solution of Permanganate of potash twice daily, the solution being freely extruded from both nostrils. Belladonna was also used frequently during the day. Between August 3rd and 5th, 74 more chondroids were removed, being loosened from their attachment by the syringing, and brought away by means of Hobday's obstetric forceps for the bitch. Altogether, 113 chondroids were removed. They weighed collectively 26 ounces, the largest weighing 6½ drams. There was also a pint of thick cheesy substance, containing great numbers of greyish-white grains, similar in character to the material forming the outer coat of the chondroids. The mare was now well on her feed and he hoped to be able to record a recovery.

The HON. SEC. moved a vote of thanks to Mr. Woodward for his kindness in bringing this very interesting case forward, and at the same time took occasion to remind members that at the next meeting of the Association the discussion would be upon such cases as were brought forward by the members themselves which they had come across in the course of their ordinary practice.

The PRESIDENT seconded the vote of thanks, which was carried.

THE INTERNATIONAL VETERINARY CONFERENCE.

The HON. SEC. said that as Mr. Stockman, who was the Hon. Sec. of the Reception Committee was present, he would like to raise the question of the International Veterinary Conference which was to be held in London in 1914. Perhaps Mr. Stockman would tell them something about it.

Mr. STOCKMAN said that a good deal of money would have to be raised if the delegates from abroad were to be entertained in a manner worthy of the profession. In other countries the Government generally found a good deal of money, or at least did much of the entertaining, but he did not think they would get anything from that quarter in this country. Any member of the profession if he gave them a subscription might have a seat on the Committee, and they would, indeed, be glad of the services of anyone who had the time and the inclination to serve in that capacity. Some gentlemen were contributing so much a year for the next three years, and that was perhaps an easier way in the long run of helping. He need hardly say he was looking to the Midland Association to give them substantial assistance. He hoped to see local committees established.

The HON. SEC. said they had a good balance at the bank, and he thought they might contribute something towards the expenses of the International Conference. When the Conference had been held in other countries the entertainment had been on a very generous scale, and for the credit of the profession in England they must all make an effort to ensure that the London Conference did not suffer by comparison. He undertook to place the matter upon the agenda for the quarterly meeting, when a Committee could be appointed to take the matter in hand.

The meeting being ended, the members had tea together before separating.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

CENTRAL VETERINARY ASSOCIATION OF IRELAND.

A meeting was held at Buttevant on the 12th July. Mr. J. F. Healy presiding.

The minutes of the last meeting were read and confirmed.

The SECRETARY read a letter from the Secretary of the Local Government Board, Ireland, which was considered unsatisfactory, and it was decided to ask the aid of Parliament to obtain the desired end, *i.e.*, to secure that only an M.R.C.V.S., where available, should hold Inspectorships under the Dairies, Cowsheds, and Milkshops Order.

The Secretary read letters from Mr. Gofton *re* the proposed Amalgamation of Veterinary Societies. It was decided not to take any action in the matter.

NOTES ON CLINICAL CASES.

By E. A. PHIPPS, M.R.C.V.S., Bandon.

RADIAL PARALYSIS.

A well-bred two-year-old filly was standing on a hot summer's day at a gap, switching flies with her tail, when the tail got caught in a bush, she galloped madly away, and was seen in the field shortly after, showing the following symptoms.

Symptoms.—Dropped elbow, typical case, very marked, flexion of joints of limb, swelling severe over region of shoulder and around elbow and forearm, no crepitation

of any description. Owner suspected fracture of humerus. Prognosis fairly favourable.

Treatment.—Very hard to get mare to walk some 300 yards or so to yard. Placed her in a large loose box, and had a good bed of sea-sand put down (the summer bedding used on the farm). Complete rest and quiet ordered. Shoulder fomented several times daily and mild lin. alb. applied. With the exception of nervousness (untrained filly), good patient. Slight improvement seen in three weeks, and then gradually for six weeks or so. Wasting of the scapular and caput muscles occurred. Blistering and walking got mare perfectly restored within six months. This mare I showed to the late Mr. W. A. Byrne, indeed he examined her for a nomination, and he seemed surprised at her rapid and complete recovery.

FACIAL PARALYSIS.

Subject.—An aged mare.

History.—Supposed glanders. Marked nasal gleet—probably due to injury.

Treatment.—Usual adopted, but of no avail, as the origin was undoubtedly central. Is it of any use to treat paralysis due to central causes?

PROLAPSE OF BOWEL THROUGH INGUINAL CANAL.

Subject.—A seven-year-old gelding, belonging to same owner.

History.—Remarkable. Horse was apparently quite sound; was sent to forge, and the boy was then sent riding him, for a bar of iron such as shoes are made of. Coming home, horse took fright under railway bridge, boy dropped iron bar (about 6ft long) which he held in his hand. The horse galloped on, and was seen to fall. On being called out I found the following.

Post-mortem.—Prolapse of small intestine through inguinal canal, for about 18 inches. Clean cut of say, 3 inches over canal, no laceration—canal uninjured apparently—practically no hæmorrhage, and was told there was no blood on road or on bar. Now this, to my mind, is of great interest. How did the bowel become prolapsed? It certainly looks as if the bar had punctured the skin and penetrated inguinal canal, but there was no laceration of any kind and the canal seemed perfect.

MONSTROSITY IN CALF.

A three-year-old heifer calved quite naturally, a first calf, which presented the following appearances:

Fair sized calf with marked hydrocephalus, head greatly deformed—two heads apparently being fused into one: probably an aborted effort at twins. There were four eyes, two noses, absolutely perfect in formation, apparently no upper lip, and tongue protruding. A hermaphrodite. It was very strong, except the head was too heavy, and would fall forward. I shot the calf, apparently through the heart, but he got up afterwards, and I had to give him a second barrel the other side. Had he two hearts? Owing to circumstances had to do away with him without a post-mortem.

GROWTH AROUND ŒSOPHAGUS OF COW.

The subject, an aged cow, showed no external swelling. Animal healthy, and very hungry, but wasted. Drink *ad lib.* could be taken, but any solid food just on entrance to stomach was forced back. Diagnosis—growth. On suggestion of Mr. E. Wallis Hoare, passed probang. Could not enter the stomach. Post-mortem—tuberculosis.

FRACTURE OF CARPAL BONES.

Subject, a six-year-old cob gelding, had fallen when galloping around hard field—a very heavy fall. Very marked lameness, superficial wound. Distinct crepitation, apparently in centre of knee, swelling not very great even 12 hours after. Could not possibly locate exact fracture. Treatment not recommended owing to

certainty of stiff knee. Let him take his chance. The first case of simple fracture I have seen in knee. Now nearly three months after accident, pony still going about on three legs—no improvement whatever.

OPEN WOUND IN HOCK JOINT?

Subject.—A two year old filly, own sister to "Rock-dove."

History.—A very slight (apparently) scratch seen on hock, and usual Jeyes fluid, etc., applied. About a week afterwards hock showed great swelling, and the inflammation was intensely painful and severe. Owner wired for me, and I found filly literally in agony.

On examining the hock very carefully, I found a slight scar on outside, just about over seat of joint, removed this with my nail—did not use knife or probe, owing to location of injury. Took mare's temp., etc., and found it 102. Put patient in slings, and applied Bellad. and glycerine, B.P., and anti-phlogistin, covered same with wool, and bandaged. Gave Mag. sulph. and pot. nit. in mashies. Mare continued in great pain, and I repeated treatment. Appetite very good, temp. up to 104; urine and faeces normal. On examining hock in a few days' time something which I took to be pus seemed to squirt out of wound. On flexing hock synovia and pus squirted out. I again used same treatment.

After some days, on being satisfied wound was clean, I blistered round the opening, but to my disgust the wound refused to close, although I used the cautery. Having heard of slaked lime being of service I applied it, and it completely fulfilled its purpose. For three weeks the mare remained in slings, and suffered a great deal, but being healthy and appetite good recovered. The hock remained large; it was blistered. She was turned out about five weeks after and again blistered. In a week or so after she got a relapse of inflammation, but the original treatment being adopted she got all right immediately. Repeated blistering failed to reduce swelling, which remained like a bog spavin and thoropin, although she gallops quite sound. I think the hock joint may have been affected, but of course it may have been some smaller joint. Am certain it was not only the tarsal sheath. The small visible wound makes the case unusual.

SEVERE INJURY TO HOCK.

Case I.—Subject. A 4 year old farm mare.

History. A punctured wound (cause unknown) on inside of hock, seat of thoropin. Had worked even after this was seen, and then went sound. Two days later synovia in plenty, and great inflammation. Used anti-phlogistin and Bellad. and glycerine. Lime practically closed the wound. Temp. up. Very great pain—not put in slings, as she would lie at first. Sweating. Febrifuges given. On examining hock after five days found very distinct crepitation—quite audible, and on seizing point of calcis, and metatarsal bone could get great mobility.

Post Mortem. Fracture of astragalus.

Case II.—Farm mare 4 years old. Opening of tarsal sheath with barbed wire—a long lacerated wound in front of hock, and to inside; synovia oozing freely. Corrosive sub. 1:1000 used and lime applied as antiseptic. Lime efficacious. What is its action? Complete recovery in a week; inflammation subsided quickly—no poulticing in this case. Wounds from barbed wire are, in my experience, very liable to that distressing sequel, tetanus.

INJURY TO MARE'S UDDER.

An aged farm mare, in lactation, was brought by her owner into infirmary with a scratch on udder—he did not know how it had happened. I, foolishly, said it was a matter of nothing, and adopted stupes and antiseptics. Later on owner called me out; there was a large abscess

in udder, temp. subnormal (probably) fluctuating, oedema along belly and inside thighs, cold sweat. Opened abscess, liberated quantity of pus, syringed out with lysol and after with tr. Iodine 1:2.

On calling in two days' time, found mare with udder stitched, and very sore and stiff (a quack relation of owner had come there) told that "farcy" was the root of the evil—mare blistered on shoulder which Mister "Quack" had said was "farcied." On turning mare round owner said that he was told that if the mare moved, her bone would break. Mare died.

This case speaks rather against myself, and only shows how very careful one should be in giving an opinion, even in apparently simple cases.

STRYCHNINE POISONING.

Subject.—A strong 2 year old fox terrier.

History.—Probably distemper. Symptoms, Chorea.

Gave Easton's Syrup in teaspoonful doses in solution. First dose took dog so badly that owner destroyed him during the spasms. Moral—don't use strychnine, although some dogs will stand a lot of it. This is not my only experience of the danger of this drug to dogs. Luckily owner was a great friend, and knew the treatment, etc.

CASES SHOWING BRAIN SYMPTOMS.

These cases are remarkable in that they occurred on adjoining farms. The first was a case in an aged mare, which showed marked evidence of brain trouble—complete blindness, would knock head against wall, etc., temp. subnormal, and pulse thready. Suspected stomach, and gave purgatives and nux vomica, also heart tonics and stimulants. Complete and rapid recovery.

History would point to digestive trouble; the faeces mucous coated and very offensive.

Two in-calf heifers in the adjoining farm, living on grass, about the same time shewed symptoms of Meningitis: would reel about and fall, glaring look in eyes, dilated pupils, very sensitive to touch, mucous membranes injected, and sclerotic markedly so, temp. up 3 or 4 degrees, and pulse small; stertor; lying down. Salivation, violent spasms, followed by coma and death.

Gave purgatives and P. Br.

In one cow—hyperaesthesia, dilated pupils. In the other—stertor, staggers, marked dilation of pupil, coma and death.

Post mortem. 'Tuberculosis.

In a case of this kind the previous year on the same farm the post mortem was said to reveal injection of the meningeal blood vessels.

It may be only a coincidence—these cases occurring together in same district, but it is quite sufficient to arouse one's curiosity. The grass, etc., on farm is very good.

PROLAPSE OR INVERSION OF UTERUS IN COWS.

This trouble is very common in my district; there is difficulty in returning the organ. I had one quite successful case, with amputation, in an old cow which had the uterus out for two days. I put on the tourniquet, and Staffordshire knot with iodoform tape (pack needle); to the stump applied astringent and antiseptic powders and administered whiskey, etc. No further treatment was required and she never looked back. In other cases death has occurred from shock. I would feel grateful for any hint as to the successful reposition in these cases, for I must candidly admit that in most cases they fail me. After how long may successful return be accomplished?

PURPURA HÆMORRHAGICA.

Subject. An aged farm mare with foal at foot.

Apparently a case of strangles—Smith had lanced jaw, foal had developed strangles.

Symptoms.—Hind leg had greatly swollen—typical cord like marking near burb end, same also under belly, on neck, and on shoulder. Marking on pin, and petechiæ on sclerotic and conjunctiva—pulse slow and soft as in influenza. Temp. 103-105 F. Appetite capricious. Prognosis—unfavourable.

Treatment.—At first give febrifuges and Pot. Iod. and Liquor Ferri. perchlor. Mare not progressing, gave Nuclein (P.D. and Co.) one ounce b.i.d. Result, swellings disappeared or nearly so, and appetite improved. Swellings recurring, again gave medicine with good results, swellings disappeared and then reappeared: used 5viii in all. Mare lay down, and stayed down till death in a fortnight ensued. She ate up to the last.

Nuclein, perhaps, if persevered with longer might have given better results.

ŒDEMA IN HEAD OF FOAL.

Called to see foal of two weeks old with great œdema of head, lips and buccal membranes being enormously enlarged. On lancing, a yellow exudate, œdematous fluid escaped, and swellings were very jelly-like. Sent head to Royal Veterinary College, Dublin, and the result arrived at was œdema, probably due to a wound.

The foal was quite all right the night before; in the morning, when I arrived, the head was as described. Treatment of no avail, lived for three days. A large gelatinous clot obstructed the glottis.

FIBROUS TUMOURS IN FALSE NOSTRIL.

Two of these cases were treated, one in a three-year-old and one in a four-year-old. In both cases the tumour occupied the same position as an atheroma. Operated on both cases standing, successfully. These tumours take a long time to dissect out, as they are firmly adherent to the skin, and subjacent structures. They were about the size of a duck's egg.

Injected adrenalin and cocaine in one case as I found the danger of getting struck with foreleg was great. Also, it is difficult, on account of position of tumour, to keep head steady.

The three-year old was only haltered and was untrained. A long vertical incision was made, the tumour cut in halves, and dissected out. The cavity was then washed out with sublimate and iodine, sutured, and healed rapidly, and no blemish except a tiny scar, in one case hardly perceptible. What is the cause of these growths?

Messrs. Howard, Mulcahy, Healy, and Winter took part in an animated discussion on the paper, and the meeting then adjourned.

E. C. WINTER, Hon. Sec.

"A Horse Doctor for Asses."

Not merely once and again but many times have the bombastic pretensions of Tuberculozine to cure consumption been exposed in *Truth*. The stuff has also been analysed and the results of the analysis published in "Secret Remedies," showing that this so-called specific is nothing more than a bromide and glycerine mixture of no value for the inhibition or destruction of the tubercle bacillus. It has been pointed out that the labels, the advertisements, and the descriptive literature published to push the stuff in this country vary from those used in the United States, where it is necessary to be more guarded in making unprovable claims in regard to a quack medicine if a "fraud order" is to be avoided. Yet despite all exposures the portrait of "Dr." Derk. P. Vonkerman, of Kalamazoo, Mich., posing as the discoverer of this "wonderful cure for consumption" still stares at one from the advertisement columns of half the daily and weekly press of Great Britain.

Hitherto my knowledge of this public benefactor has been confined to such account as he gives of himself in the pamphlets puffing his discovery. In these, as in his advertisements, he describes himself as a "Dr.," though displaying a discreet reticence as to where and when he obtained his medical degree. A similar reticence was displayed when by way of counterblast to "Secret Remedies," a Southampton gentleman published a booklet containing replies received to inquiries addressed to the proprietors of a number of widely advertised quack remedies concerning their originators. The reply of the Yonkerman Company was as follows:—

"The originator of this remedy is Dr. Yonkerman, whose medical qualifications are all American. Realising the prejudice in England against doctors with Transatlantic degrees, he thinks nothing would be gained by discussing the same."

I am not aware of any particular prejudice existing in this country against doctors possessing bona fide Transatlantic degrees, but information recently published by the American Medical Association enables me to make a shrewd guess as to why Derk P. Yonkerman stands to gain nothing by discussing his medical qualifications. In the first place, he is not a licentiate of the State in which he practices. In his pamphlet he claims that he "graduated from Ontario College, Toronto, Canada." There is no such college. There is, however, an Ontario Veterinary College at Toronto, and as it happens a Derk P. Yonkerman graduated from this institution in 1882. Yonkerman claims also to have pursued his studies at Stuttgart University, Germany. There is no such university. But again there is a veterinary college at Stuttgart, and though no one of the name of Yonkerman

graduated or matriculated at this college he may well have spent some time there. Finally, in the list issued by the Michigan State Veterinary Board, the name of D. P. Yonkerman, of Kalamazoo, appears as a registered veterinarian. He is, in fact, a qualified horse doctor, and it is on the strength of this qualification presumably that he sets himself up to cure the tuberculous inhabitants of two continents. Evidently Yonkerman is not likely to gain anything by discussing the value of his medical degrees, but it may be otherwise with the public. Of course, if they prefer to allow themselves to be exploited by a Kalamazoo horse doctor they are at perfect liberty to do so. But the fact should be made perfectly clear to them. In this country the M.R.C.V.S. does not call himself "Dr.," and the gentlemen who have specialised in the diseases of animals do not claim to be able to treat diseases of human beings. Nor if they did would they find many patients willing to place themselves under their charge and swallow their boluses. And if the facts were known, it seems hardly likely that a horse doctor from Kalamazoo would be more successful. But, of course, it may be that Derk P. Yonkerman looks for his patients chiefly among asses.—*Truth.*

The Foot-and-Mouth restrictions withdrawn.

The Board of Agriculture and Fisheries made Orders on Monday withdrawing as from Wednesday all the restrictions which were imposed by them on the movement of animals in connection with the recent outbreak of foot-and-mouth disease at Udimore, near Winchelsea, Sussex.

DISEASES OF ANIMALS ACTS 1894 to 1910, SUMMARY OF RETURNS.

Period.		Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.		
		Outbreaks		Animals				(including Farcy)		Counties Affected				
		Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Animals.	Out-breaks	Animals.	Animals Attacked		Out-breaks	Out-breaks.	Slaugh-tered.
G.T. BRITAIN. Week ended Aug. 19		11		16				3	4			37	582	
Corresponding week in	{ 1910		26		31			12	32	Kent	2	1	26	132
	{ 1909		22		25			7	23			1	28	163
	{ 1908		17		25			15	52	Lincoln	1		32	207
Total for 33 weeks, 1911		547		684		7	420	123	301	London	1	305	1696	19937
Corresponding period in	{ 1910		951		1152	2	15	237	745			332	953	8556
	{ 1909		870		1155			361	1333			465	1197	10567
	{ 1908		726		977	3	112	528	1684			636	1429	7871

Board of Agriculture and Fisheries, August 22, 1911.

Parasitic Mange (outbreaks)

IRELAND.		...	...	...	...	...	...	4	...	4	30
Week ended Aug. 19		...	...	...	...	...	...	3	1	2	15
Corresponding Week in	1910	...	...	...	...	...	...	...	...	2	19
	1909	...	...	...	...	...	...	...	...	...	21
	1908	...	...	...	...	...	...	2	...	...	...
Total for 33 weeks, 1911		...	7	12	...	...	2	3	51	250	1507
Corresponding period in	1910	...	5	8	...	...	1	2	18	346	1673
	1909	...	5	5	...	...	...	...	63	305	1345
	1908	...	5	8	...	...	...	...	31	272	2732

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 21, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

REVIEW.

MEAT AND ITS INSPECTION. A Practical Guide for Meat Inspectors, Students, and Medical Officers of Health. By ARTHUR R. LITTLEJOHN, M.R.C.S., L.R.C.P., M.R.C.V.S., D.P.H. Demy 8vo. Pp. xij+399. Thirty-two illustrations. Price 10/6 net. (Baillière, Tindall, & Cox, 8, Henrietta Street, Covent Garden, W.C.)

This work is intended to serve, not as a complete text book, but as an aid to those practically concerned with meat inspection; amongst whom the author, in his preface, specially mentions meat inspectors and candidates for the Public Health Diploma. Consideration for readers of the former class has led to the work being couched in as simple terms as possible; and upon the whole the author has succeeded fairly well in this direction. As might be expected, however, there are portions of the book which can scarcely be fully followed except by qualified veterinarians and medical men.

Less than 230 pages of the work are original. The remainder consists of the verbatim reproduction of legal documents, or portions of them, bearing upon meat inspection and allied subjects. A large number of these—Public Health Acts, Regulations, Model By-laws, Board of Agriculture Orders, etc.—are quoted in more or less detail; and though their inclusion in one volume certainly facilitates reference, it as certainly sadly encroaches upon the author's space.

In the original portion of the work, the author has attempted to cover a vast amount of ground. Methods of slaughtering, and of dressing and preserving carcasses, the normal carcase appearances and dentition of animals, the physiological conditions which render meat unsound and the commoner pathological changes encountered in meat inspection, some general and special diseases, and also some of the more important parasites and the lesions they cause, are all dealt with in more or less detail. The teaching throughout carries the well-known rule of "if in doubt condemn" to an extent which might be difficult to follow in practice, but this is certainly erring on the right side.

That the treatment of every portion of the book is far from exhaustive, and that some subjects not without claims to insertion are omitted altogether, was of course inevitable; but upon the whole the author has selected his matter and apportioned his space judiciously, and written throughout with lucidity and concision. The work is not free from some inaccuracies.

Taking the work as a whole, however, it must be pronounced a welcome addition to the English literature on meat inspection, which will be found very useful by meat inspectors, students for the meat inspectors' examination, and—perhaps in a lesser degree—by medical officers of health and students for the D.P.H. In the very likely event of its attaining a second edition we hope to see the original portion considerably extended in many directions, perhaps most of all in that of anatomy. As it stands, it is a good book holding the germ of a better one.

W.R.C.

The "Arnoline" Culture for the Extermination of Rats.

Messrs. Arnold have brought out a new rat poison which is alleged to be harmless to other animals, but destructive to the rodent.

"It is acknowledged that all rat poisons and virus up to the present time have failed to exterminate this great pest. After some years of experimenting a bacillus has been discovered that should solve this great problem

of how to exterminate rodents. Before placing it on the market, it was put to the most severe tests, both here and on the Continent, during the past four years, and exhaustive tests have been made, both at the Bonn University and by a leading bacteriologist in this country and certificates have been given to prove that the process is effectual and harmless to human beings and animals other than rats.

It is a well-known fact that with existing poisons and virus a large number of rats become immune, and their offspring are also immune—possibly many people are not aware of this fact—it has therefore been necessary to guard against this fatality, so two tubes of culture are used. Culture A, which is given first, and Culture B, to kill off any that may survive. The first is given as a food, and then, should any survive, one should be caught and a small quantity of the second tube dissolved and injected under the skin by means of a hypodermic syringe, and then let loose to run with the others, who will become affected and die. This should be done by a veterinary surgeon or one used to handling rats."

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Aug 22

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieuts. confirmed in their rank :—W. St. J. F. McCartney, E. C. Doyle, R. H. C. Higgins, E. McK. Nicholl, R. C. G. Thwaytes, H. S. Woods.

OBITUARY.

MARRISON.—On 20th inst., at Granby Croft, Bakewell, Alice Collins, wife of Edward Marrison, M.R.C.V.S. and eldest daughter of J. B. Marrison, Silver Birch Avenue, Fulwood. Interment took place at Bakewell, on Wednesday.

CORRESPONDENCE.

SHEEP AND WATER SUPPLY.

Sir,

I thought when I read the discussion on Prof. Craig's paper that it would be a wonder if somebody did not take up the opposite view concerning the camel-like proclivities attributed to sheep.

We often criticise the remarkable conclusions of laymen, but here is a practical man writing in your issue of August 18th and playing the same game off on two of our men. Evidently "Kerry Hill" knows more than the gentleman who recently gave his views on worms in sheep.

If sheep don't suffer from lack of water how is it that droughts produce so much disaster on Australian sheep farms?

Whether folded, housed, or at pasture, sheep should have access to water, and if it is not naturally present it should be taken to them. When on dry food in dry, hot weather they need it especially. If two flocks exist side by side, one of which is regularly watered and the other receives no such attention, the difference will soon become apparent. Moreover, they should have good water because this will be the best preventative against drinking from a contaminated source if such be accessible. Of course, when on food containing a great percentage of moisture they are

not eager after water, but for the production of good mutton, digestion, wool, and milk a good water supply is as desirable as necessary. To say that a sheep does not drink water because it lives on Kerry Hills is to forget the pranks of Nature in her wilder moods. We sometimes live in towns and cities so long that we forget our geography and all about nature and the country.—Yours faithfully,

G. MAYALL, M.R.C.V.S.

A WONDERFUL PROFESSION.

Sir,

Having been a reader of *The Veterinary Record* for years and years, and having partially digested the little "twiddleley-bits" which appear so frequently therein, I find, after a long practical experience, to use a racing phrase—they don't come off. I started at the beginning of the profession, served a pupilage for which a heavy premium was paid, and at the termination thereof received a testimonial as to ability, sobriety, integrity, and as to being a fine horseman across country. I then received my membership diploma without having been stopped once, although I may mention that I did not receive a waggon load of medals. Highly elated and inflated, and after advertising in *The Veterinary Record*, notably to the benefit of that organ, I at last received a likely answer, portion of the text of which I beg to produce here:

"Sir,—In answer to your advertisement I am in want of a qualified man. I have a town and country practice and being a bachelor I should require a married man with no encumbrance, the wife to act as housekeeper. I keep a little girl to do the rough work, and should require the wife to cook and superintend the household. The salary I offer is 25/- weekly and all found" Not having ventured to reply to this I cannot say whether the washing was sent out or not.

The offer I accepted as a result of my next advertisement was from a London F.R.C.V.S. as assistant at the princely salary of £2 weekly and rooms found. After a wearisome journey I arrived at the F.R.C.V.S.'s and found the "rooms" to consist of a little cubicle, ill ventilated, and situated at the back of the surgery. The furniture consisted of a folding camp bedstead and a cheap grained washstand. I could not unpack my portmanteau simply because there was nowhere to hang my clothes. Some of your readers will no doubt ask why I stopped in such a place, but the F.R.C.V.S. having a reputation in London, and myself being broke, I decided to lie on the bed I had made for myself, not wishing to remain parasitic on my parents any longer, having entered the profession much against their will. Always being a lover of animals I had decided against their express desire.

The first question I asked my principal was where I was to get my meals. He informed me that there was a place around the corner where his assistants had generally repaired. On going there the following morning the only restaurant I could find was the "Hotel de Lockhart," redolent of soft roe bloaters and festooned with halfpenny "slabs," which I must say were excellent and enjoyable had it not been for the proximity of a huge coalheaver and a peripatetic cabrunner, who had obviously been priming himself from an early hour that morning, and who quite gratuitously informed me that the "cawfee was hextra." With regard to my duties, which were slight, they consisted of keeping the veterinary and forge books, dispensing, washing and dressing dogs, walking and bussing to cases, and not forgetting parcels of medicine for contracts, etc. The business hours ranged from 8 a.m. to 10 p.m., after which I was at liberty to enjoy myself but was expected to be back soon after eleven as the F.R.C.V.S. did not reside on the premises. I stood this for two years. Returning home one night and switching on the light I was genuinely dismayed to see several members of the Order Acanthis scuttling across the snowy pillow towards their lair, having been disturbed by my untimely arrival. This confirmed my own suspicions as well as rumours I had heard. Next day I tendered a month's notice and was earnestly requested to reconsider my decision.

My next move was to the blessed, soul-salving country, with an extremely decent and homely man, who was a

registered practitioner, and who treated me like a gentleman, so that I was in a measure able to recuperate after the experience I had been through.

During my stay in London I met the assistants of several well known practitioners, and I assure you their lot was not a happy one, having been brought up as gentlemen and treated in this abominable fashion, in some regrettable instances they sought forgetfulness of their misery in the oblivion produced by booze. I am acquainted with a practitioner who was assistant to an ex-president of R.C.V.S., F.R.C.V.S., and examiner for the membership and fellowship diplomas. He started at 30/- weekly, out of which he had to disburse 2/6 to the groom's wife for trying to keep clean the "suite of rooms" which consisted of a small compartment over the forge. During the absence of his principal he had to attend Tattersall's, and had to take entire charge of the business, which was at that time returning a considerable amount. When away on holidays, etc., he left explicit instructions that F.R.C.V.S. was on no account to be put on his letters, and to guard against such a contretemps he always left behind a supply of envelopes ready addressed to "So-and-So, Esq." When he died an elaborate obituary appeared in this paper, also a photograph. His many virtues and the good he had done for the profession at large were unreservedly extolled. I would venture to remark that this same paragon employed for a number of years an unqualified man to carry on his extensive practice.

I have lately read that our professional papers are disgusted because of the paucity of clinical notes contributed by practitioners. I must say that I agree with the latter. When a man after years and years of practical experience hits upon a successful method of treatment for certain cases and publishes it in the veterinary papers, a detailed account of it invariably appears the following week in the multifarious publications which cater for stockbreeders and farmers. These "twiddleley-bits" are sent up by so-called veterinary surgeons who gain their experience in garrets.

My sole object in writing this is that those about to enter the profession may be forearmed. In the words of the poet—I have had some.

SAGGITORIUS.

PROFESSIONAL (?) FEES.

Sir,

Your correspondent "Rusticus" very naturally makes an enquiry about a matter the essential details of cost being apparently to him quite unsuspected. As this discussion originated with reference to keep and treatment, the food of the cats and attendant's wage would be comparatively small matters. The greatest cost should be professional services with regard to treatment. A client of a veterinary surgeon when contracting for keep and treatment agrees to pay a sum which would involve total loss to the veterinary surgeon of all other fees in the case. There is a risk, particularly with cats, that the cats may infect other cats with its disease, or contract itself an infectious disease and cause trouble, loss of client, and damage to reputation generally—a really serious matter. Again, fatal or unfavourable termination of an illness in an infirmary involves greater loss of reputation than when it occurs in a client's house, and suspicion of inattention and neglect is much more likely to be aroused. Further, there is the annoyance and loss of time and patience in answering daily enquiries as to how the patient is progressing. I am sure everyone doing an extensive practice in the small animals would support these contentions. "Rusticus" in face of the above would very logically say, "Why not follow my example and decline to take in cats." My answer would be that at the present time, urban horse work being what it is, to refuse to take in small animals would throw the client into the hands of the quack or rival veterinary surgeon. How many can afford to do that? Re matter of keeping or boarding healthy animals, I do not agree with "Rusticus" that there is a conspiracy of silence with regard to the cost. I do not believe that 5 per cent. of veterinary surgeons know the cost. They lump all their receipts, both from professional work and the business of keeping healthy animals, and they might very easily be making a loss on this business and be quite unaware of it. I happen to know the figures

relating to a certain establishment in a cheaper locality than the West end of London, where no professional fees are included, and can assure "Rusticus" that if dogs and cats had been universally charged 5/- all round, there would be a loss each year (only allowing 5 per cent. for depreciation). As things are, higher charges are made and profits shewn at 12½ per cent. It must be remembered that there may be accommodation for 100 animals, but only once a year would there be every part occupied, and during slack times perhaps the number would be reduced to half a dozen.

In the case of veterinary surgeons taking in sick animals separate places must be provided for animals suffering from the various parasitic skin diseases, distemper, etc. And as epidemics vary, a place accommodating 100 might be easily unable to take in more than 40, and then have one or more of its compartments full up. Cats require more attention than dogs. Supposing a Persian is not combed out for a fortnight what would be the remarks of the owner on return who finds her pet a mass of knotted and tangled wool.

I should like to commend Mr. Pope's remarks to all urban practitioners, and they would do well to listen to him. I consider the proposed conference would be valuable alone from its educational effect. The truth is many of us do not know what to charge, and with the awful example of the R.V.S. before us we are turned out into the world as trembling novices, and one hears you cannot get more than 3/6 a week for boarding dogs, and much such nonsense. What are we to believe when the premier institution of the realm only asks 5/- a week for keeping and treating a dog?

Having a dog or cat treated in an infirmary is a luxury, and it is absurd of us to treat as a charity and give our services gratis.—Yours, etc.,

F. O. PARSONS, M.R.C.V.S.

Ealing, Aug. 14.

Sir,

I venture to opine that the righteousness of charging 10/6 per week or more for keeping cats—a sublime subject is it not?—will not be demonstrated by such letters as the latest effusion signed "Vis unita fortior." It may be that such charges really are "just and reasonable"—I am still waiting for evidence upon that point—but neither clumsy attempt at sarcasm nor unveracity will help to prove it.

I have not said, as your correspondent chooses to assume, that "how much an animal costs to keep" was the *sole* consideration in estimating these charges. I did say that it was one essential consideration; and to deny that, as your correspondent apparently attempts to do, is simply to deny the truth. Of course the veterinary surgeon's "skill and trouble" is another consideration, but its importance varies a great deal. When I said that I do not keep an infirmary, I did not justify your correspondent's "conclusion" that I know nothing about them. I have had to do with some, run by men who charged high fees, in which the conditions, so far as the care given to animals was concerned, could only be called disgraceful. This, however, is quite a different point to the one I raised—I asked the actual cost per animal to the veterinary surgeon, and it is very suggestive that your correspondent has not even attempted to answer me.

As for my imputations of spite and stupidity against your correspondent, I imagine that few will now require me to justify them; for his own present letter has done so most effectively. Stupidity!—why, the whole epistle simply bristles with evidence of it. What could be more stupid than to compare the proposed combination of veterinary surgeons to keep the fees up to trades unionism, and to drag in the recent strikes to point the moral? Those strikes were declared to obtain little more than a living wage for the men who actually do the work. The suggested veterinary combination would be to maintain what at least looks very like a system of overcharges, for work chiefly done by the veterinary surgeons' kennel men. The two things are not comparable. Again, could anyone find a more striking example of crass stupidity than your correspondent's unconsciously asinine use of the term "avaricious"? The avaricious man does not do work at any price to keep his neighbour out—and the word "avarice" is better not used by advocates of veterinary rings to keep up the prices.

I imputed "spite"—and mean, cowardly spite, too—to your correspondent, and I reiterate it. No veterinary surgeon who knows anything about dog and cat practice in the West End will have any difficulty in identifying this one "prominent" firm whose infirmary charges are so much lower than those of any other. I neither uphold nor condemn their scale of fees, but I say this. Their action has caused keen feeling for years past in veterinary circles in and around London; but no one really suggests that their patients are worse cared for, or their infirmary less hygienic, than those of their neighbours. One member of the firm, indeed, has individually done at least something to improve the hygienic conditions of veterinary practice. That being so, your correspondent's repeated insinuations of "cheap and nasty" towards them are not difficult to assess at their true value.

The whole question of veterinary fees for cat and dog practice, including infirmary charges, demands more careful and comprehensive study than it seems to have received yet. From a purely business point of view, it is doubtful whether our present high fees are well advised—for it is certain that very many people find them prohibitive. From another point of view, there is something to be said both for and against canine and feline infirmaries, some of which, if the truth were known, would be found no great credit to the profession. The subject is not a quite simple one; and its discussion will not be furthered by correspondents who write merely to advance contemptible individual ends.—Yours faithfully,

"RUSTICUS."

UNPROFESSIONAL CONDUCT.

Sir,

One of the most flagrant cases of the above has recently come to my notice. For some four years a M.R.C.V.S. employed an unqualified man as assistant, who left him and set up in opposition two miles away from his former employer.

This unqualified opponent happened an accident and during his incapacity his cases were attended to by a Major of the A.V.D. Members of the A.V.D. have always impressed me that their conduct was such as to elevate the profession, but what can one think after this. I enclose my card and remain

AN EMBRYONIC VET.

A COMPOUND REGISTRATION FEE— A SUGGESTION.

Sir,

Is it too late in the day to consider whether it is advisable to exempt a veterinary surgeon from paying the annual registration fee of £1 1s., on his paying a composition fee varying in amount according to his age or to his professional life. If so, the amount to be paid might be fixed on actuarial advice. I do not know the average life of a veterinary surgeon, but probably it is not more than fifty-five. If a veterinary surgeon on gaining his diploma paid a fee of 30 guineas, or a practitioner of thirty years of age 20 guineas, of forty years a fee of 15 guineas, and so on in proportion, I believe the R.C.V.S. would be a gainer, because a great number of men paying such fees would die or leave the profession before they reached the age of sixty, and the College would certainly have the money in hand, and if properly invested the money with interest and compound interest would cover all liability. As an alternative suggestion, probably some insurance would take up the scheme and thus relieve the College of all responsibility. It could be left to the discretion of the individual members to choose whether they preferred to pay their fee annually or by compounding it.

What have other members to say to such a scheme as problematically outlined as above? I think it is well worth consideration. I merely offer it as a suggestion. Veterinary Societies should also consider a similar scheme for the compounding of their annual membership fees.—Yours truly,

SCRUTATOR.

Veterinary Societies—Addresses.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH
Pres: Mr. William Robb, F.R.C.V.S., Glasgow.

Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,
 Moore Street, Abattoir, Glasgow.

BORDER COUNTIES V.M.S.
Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton
Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,
 Dalegarth, Windermere
Meetings, Second Friday of Feb., June, and October

BRITISH COLUMBIA V.M.A.
Pres: Dr. Gibbons, M.R.C.V.S., Vancouver,
Hon. Pres: Dr. Hamilton, M.R.C.V.S., Victoria.
Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

CAPE OF GOOD HOPE V.M.S.
Pres. Mr. J. D. Borthwick, M.R.C.V.S., Cape Town
Hon. Sec. & Treas. Mr. R. W. Paine, F.R.C.V.S.

CENTRAL V.S.
Pres. Mr. W. S. Mulvey, F.R.C.V.S.,
 Skansen, Baddow Road, Chelmsford

Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S.,
 122 St. George's Avenue, Tufnell Park, N.
Meetings, First Thursday in each month, except August
 and September, 10 Red Lion Square, Holborn, at 7 p.m.

CENTRAL CANADA V.A.
Hon. Sec: Mr. A. E. James, Ottawa
 CENTRAL V.A. OF IRELAND.
Pres: Mr. J. F. Healey, M.R.C.V.S., Middleton
Hon. Sec. Mr. E. C. Winter, F.R.C.V.S., Queen st., Limerick
Treas: Mr. P. J. Howard, M.R.C.V.S., Ennis

EASTERN COUNTIES V.M.A.
Pres: Mr. T. G. Hestley, M.R.C.V.S., Woodbridge
Hon. Sec. & Treas: Mr. Sidney Smith, Junr., M.R.C.V.S.,
 87 High Street, Lowestoft
Meetings, Second Tuesday, Feb., July and Sept.

GLASGOW V.M.S.
Pres. Principal McCall.
Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas.

VET. MED. ASSN. OF IRELAND.
Pres: Prin. A. E. Mettam, M.R.C.V.S., R.V. Coll., Dublin
Hon. Sec: Mr. A. Watson, M.R.C.V.S.,
 Municipal Buildings, Cork Hill, Dublin
Hon. Treas: Prof. Craig, M.A., Royal Vety. Coll., Dublin.

LANCASHIRE V.M.A.
Pres: Mr. J. W. Brittlebank, M.R.C.V.S.,
 Town Hall, Manchester
Hon. Treas: Mr. W. Packman, M.R.C.V.S., Bury, Lancs.
Hon. Sec. Mr. G. H. Locke, M.R.C.V.S.,
 Grosvenor-street, Manchester

Meetings, 1st Thursday in April, June, Sept., & Dec.
 LINCOLNSHIRE V.M.S.
Pres. Mr. W. W. Grasby, M.R.C.V.S., Daventry

Hon. Sec. & Treas: Mr. C. W. Townsend, F.R.C.V.S.,
 Long Stanton, Cambridge
Meetings, Second Thursday Feb., June, and October

LIVERPOOL UNIVERSITY V.M.S.
Pres: Mr. J. T. Share-Jones, F.R.C.V.S., University, L'pool.
Hon. Secs: Prof. H. E. Annett, The University.
 A. Richardson, M.R.C.V.S., 111 Arundel Avenue, L'pool.

Meetings, May, July, October, January.

VET. ASSN. OF MANITOBA.
Pres: Dr. W. A. Dunbar, Winnipeg
Hon. Sec. & Treas: Dr. F. Torrance, Winnipeg

MIDLAND COUNTIES V.M.A.
Pres: Mr. H. L. Pemerton, M.R.C.V.S., Bridgnorth
Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S.,
 Camden House, High-st., West Bromwich

Meetings, Second Tuesday, Wednesday, Thursday, and
 Friday alternately in Feb., May, Aug. and Nov

NATAL VETERINARY MEDICAL ASSOCIATION.
Pres. Mr. H. Watkins Pitchford, Govt. Bacteriologist,
 Pietermaritzburg

Hon. Sec. & Treas. Mr. J. B. Collyer,
 Vety. Inspector Natal Police, Pietermaritzburg

NATIONAL VET. ASSOCIATION.
Pres: Mr. W. Woods, F.R.C.V.S., Wigan.
Sec: Mr. William Hunting, F.R.C.V.S. London, S.W.
Treas: Prof. G. H. Wooldridge, F.R.C.V.S.,
 Ryl. Vet. Coll., Camden Town, N.W.

NATIONAL VETERINARY BENEVOLENT & MUTUAL
 DEFENCE SOCIETY.
Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester
Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,
 Quay-street, Manchester

Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.,
 Grosvenor Street, Oxford-st., Manchester

NORTH OF ENGLAND V.M.A.
Pres: Mr. E. R. Gibson, M.R.C.V.S.,
 27 Marlborough street, Seaham Harbour
Hon. Sec: T. T. Jack, M.R.C.V.S., 3 Elmwood Ter, Sunderland
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH OF IRELAND V.M.A.
Pres: Mr. F. W. Emery, F.R.C.V.S., Belfast
Hon. Sec: Mr. J. S. A. Jordan, M.R.C.V.S., Belfast
Hon. Treas: Mr. J. A. Thompson, F.R.C.V.S., Lurgan

NORTH OF SCOTLAND V.M.S.
Pres: Vet. Capt. Clement Baxter, M.R.C.V.S., Elgin
Hon. Sec. & Treas: Mr. G. Howie, M.R.C.V.S. Alford, Aberdeen
Meetings, Last Saturday in January and August

NORTH WALES V.M.A.
Pres: Mr. R. S. Rowlands, M.R.C.V.S., Abergele
Hon. Sec. Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon
Meetings, First Tuesday, March and September

ONTARIO V.A.
Pres: Mr. J. H. Tennent, V.S., London, Ontario
Sec. & Treas: Mr. C. H. Sweetapple, V.S., Toronto, Ontario

ROYAL COUNTIES V.M.A.
Pres: Mr. E. J. Mellett, M.R.C.V.S., Henley-on-Thames
Hon. Sec. & Treas: Mr. G. P. Male, M.R.C.V.S., Reading
Meetings, Last Friday, Jan., April, July and Nov.

ROYAL SCOTTISH V.S.
Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty.

ROYAL VETERINARY COLLEGE M.A.
Pres: Dr. Lander, D.Sc.
Hon. Sec: Mr. H. Gorton, M.R.C.V.S. Assist. Mr. T. J. Davis

SCOTTISH METROPOLITAN V.M.S.
Pres: Mr. James Peddie, F.R.C.V.S., Dundee
Hon. Sec: Mr. A. Gofton, M.R.C.V.S., Ryl. Dick Vet. Coll.

SOUTHERN COUNTIES V.S.
Pres: Mr. W. Hunting, F.R.C.V.S., London
Hon. Sec: Mr. J. Alex. Todd, M.R.C.V.S., Worthing
Hon. Treas: Mr. E. W. Baker, M.R.C.V.S., Wimborne
Meetings, Last Thursday, Mar., June and Sept.

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
Pres: Mr. G. R. Dudgeon, M.R.C.V.S., Sunderland
Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.

Meetings, First Friday, Mar., June, Sept. and Dec.

TRANSVAAL V.M.A.
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Hon. Sec. Mr. W. Ascott, M.R.C.V.S., Bideford

Hon. Treas: Mr. F. G. Bond, M.R.C.V.S., Plymouth
Meetings, Third Thursday, March, July and November

WEST OF SCOTLAND V.M.A.
Pres: Mr. Hugh Begg, M.R.C.V.S., East Kilbride
Hon. Sec. & Treas: Robert Mitchell, M.R.C.V.S.,
 1291 Argyll Street, Sandyford

Meetings, Second Wednesday, May, Oct. and January.

YORKSHIRE VET. ASSOCIATION
Pres: Mr. J. W. Lazenby, M.R.C.V.S., Tadcaster
Hon. Sec: Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds
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Prof. Sir JOHN M'FADYEAN, M.B., B.Sc., M.R.C.V.S.

SESSION 1911-12.

**The Winter Session will commence
on Monday, October 2nd,**

When the Chair will be taken by

LEONARD BRASSEY, Esq., M.P., and the
INTRODUCTORY ADDRESS delivered by
STEWART STOCKMAN, Esq., M.R.C.V.S.,
Chief Veterinary Officer to the Board of
Agriculture and Fisheries, at 3 p.m.

An Examination in General Knowledge will
be held at the ROYAL VETERINARY COLLEGE,
CAMDEN TOWN, N.W., by the Educational
Institute of Scotland, on 7th, 8th, and 9th of
September.

The College Calendar, with full particulars
of Fees, Prizes offered, duration of Terms, and
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RICHARD A. N. POWYS, Secretary.

July, 1911.



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Prof. METTAM, B.Sc., M.R.C.V.S.

The TWELFTH SESSION
will commence on Oct. 3, 1911.

A Preliminary Examination will be held on September 7th, 8th, 9th, 1911.

For Prospectus and all particulars of Course, apply to

G. E. HAINES,
The Registrar.

ROYAL (DICK) VETERINARY COLLEGE, Edinburgh,

Principal:
O. CHARNOCK BRADLEY, M.D., D.Sc., M.R.C.V.S.

89th SESSION.

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An EXAMINATION in GENERAL KNOWLEDGE for intending Students will be held on 7th, 8th and 9th September.

**Next Session commences,
Monday, October 2nd.**

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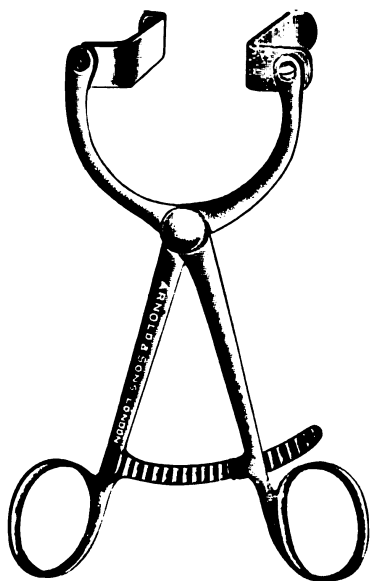
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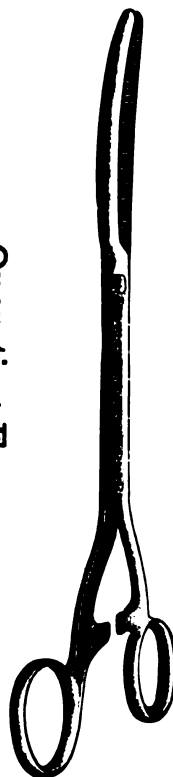


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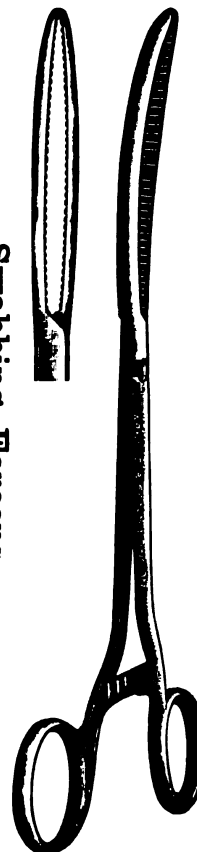


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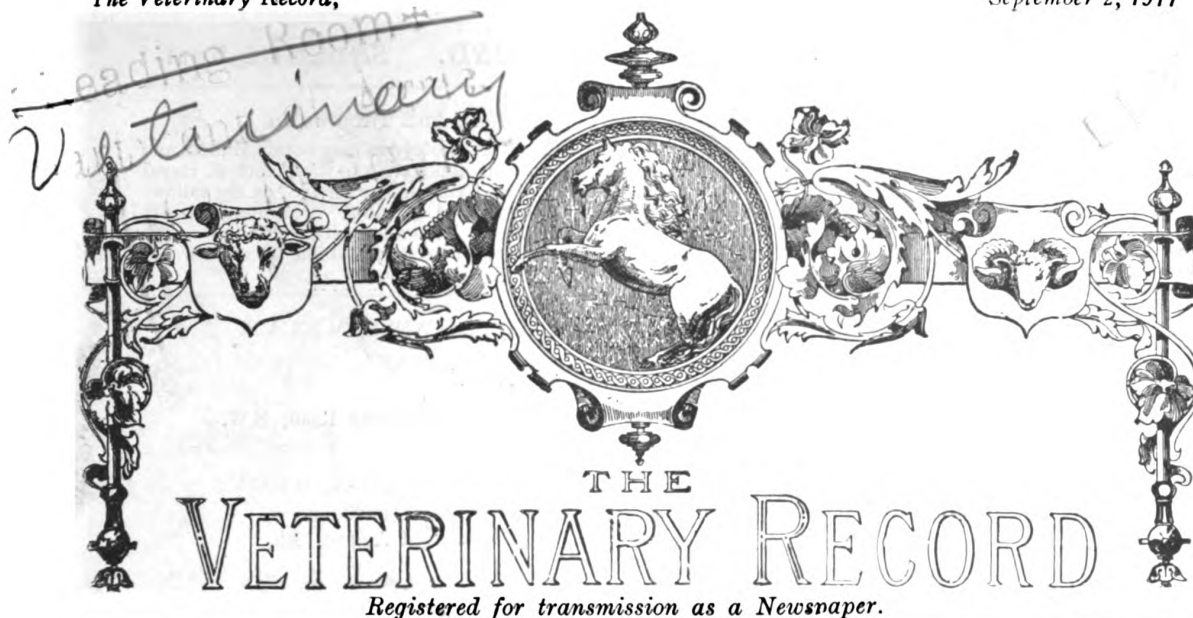
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No. 1208.

SEPTEMBER 2, 1911.

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ROYAL COLLEGE OF VETERINARY SURGEONS

THE Council will elect at its meeting on October 13th, three Local Secretaries for the conduct of the Examinations in Scotland, Dublin, and Liverpool respectively. The salaries will be as follows:

Scotland	30	Guineas	per annum.
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Liverpool	10	"	"

The Examinations, both oral and written, are held twice a year at each College, and the selected Candidates will be required to undertake the work in connection with the Examinations, commencing in December next. Applications, accompanied by copies of three recent testimonials, to be received not later than September 30th.

For full particulars as to duties, etc., apply to the undersigned: FRED BULLOCK, Secretary,
10 Red Lion Sq., London, W.C.

Lancashire V.M.A.

A QUARTERLY Meeting will take place on Thursday, Sept. 7th, at the Grand Hotel, Manchester. Meeting 4 p.m. The president J. W. Brittlebank, Esq. in the chair. Agenda: routine business and Pathological evening. G. H. LOCKE, Hon. Sec.

Assistant Wanted

NEWLY qualified young man wanted as above. North of England. Rooms and attendance. Address, 1092 V.R., 20 Fulham Rd., London, S.W.

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EDINBURGH.

Veterinary Surgeons have for long keenly felt the want of something which could be used with good results as a Uterine Antiseptic and which at the same time could be quickly and easily administered. After many trials, and with the kind co-operation of some able Veterinary Surgeons of great experience in parturition cases, we have succeeded in producing

a Pessary made with a **non-oily base** which does its work efficiently and at the same time is non-irritant—in fact, soothing in its effect. They are of great use in parturition in cows or mares; and if administered immediately after parturition they will keep the Uterus clean and healthy, and prevent the after-birth becoming foul.

Veterinary Surgeons in various parts have highly recommended them, and there is an increasing demand for both kinds.

Customers are requested when ordering to state which kind they prefer.

A RECENT UNSOLICITED TESTIMONIAL.

AINSWORTH WILSON, ESQ., F.R.C.V.S.,
writes:—

"I have used the Saloform Pessaries supplied by Messrs. Harkness, Beaumont & Co., of Edinburgh, with good results in various diseases of the genital organs, both in mares and cows, more especially after parturition. They are particularly useful in retention of the afterbirth, with septic complications. It is often impossible to attend more than once a day to irrigate the uterus; in such cases it is good practice to leave one or two of the "extra strong" pessaries *in situ*. I have found them an excellent substitute for Iodoform and other well known non-irritating antiseptics. I feel justified in recommending them to the profession.

Witham, Essex.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1208.

SEPTEMBER 2, 1911.

VOL. XXIV.

CLINICAL RECORDS.

Bovine monstrosities are common; but the existing records of them are often unsatisfactory. Many of such reports are so meagre in their details that they are of little interest to the clinician, and perhaps still less to the teratologist. Last week we published one by Mr. H. Thompson which was well above the average in this respect; and to-day we print a still fuller one by Mr. A. McTurk. Apparently this gentleman has given some attention to the subject of monstrosities; and he must be congratulated upon the care and skill with which he investigated and described the case in question. His report will interest clinicians, and would interest teratologists also.

In one sense, teratology never will be a study of practical import to the bovine obstetrician. To know the frequency of monstrosities, and therefore to remember the possibility of one in any puzzling presentation, is all that is required from the strictly clinical point of view. The forms these freaks take are so diverse that no directions for dealing with them are of much avail; the practitioner must depend upon his own skill and resource in their delivery. Nevertheless, teratology is a special branch of the great science of embryology, and may become even more important one than it is now. Bovine obstetrics is rich in materials for its study; and a country veterinary surgeon who chose to take up the subject seriously might succeed in doing really useful teratological work.

Veterinary practice, especially perhaps country practice, is full of opportunities for observation, as an increasing number of practitioners seem inclined to recognise. Of late there has been a gratifying augmentation of clinical records in various directions, some of much more general importance than teratology. The gastric disorders of ruminants, for instance, are just now receiving some attention, and few veterinary subjects are better worth it. Few are more important in country practice, none more frequently present diagnostic difficulties, and, in many important particulars, we have still much to learn regarding the principles of their treatment. Whether we learn much in this generation depends upon the practitioners of this generation.

FOOT-AND-MOUTH DISEASE.

Foot-and-mouth disease has appeared again, this time in the Midlands. It is clear that our danger of infection from the Continent is acute, and the proposed committee of enquiry into the possible channels of infection will be welcome. What would have happened to British agriculture this year had it not been for the existing regulations of our Board and the efficiency of its officers?

DISEASES OF THE DIGESTIVE ORGANS IN THE OX.

By G. MAYALL, M.R.C.V.S.

I am glad to read that somebody is taking up the study of "Diseases of the digestive organs in the ox." A state of chaos has existed long enough concerning them. Proper knowledge and the best way of treating them are both in a very hazy state.

In making an attempt to answer some of Mr. Wallis Hoare's questions I claim no originality, but am writing to try to throw some light on the subject and to express a few opinions.

(1) I consider that the state known as *impaction of the omasum* does not arise *per se*, indeed it may be said to be always impacted. The contents of this stomach are ever dry, and competent observers say it has no secreting power. The complaint leading to inaction of the omasum may be called chronic indigestion, and is a gradual process affecting all three stomachs—rumen, reticulum, and omasum. Dry indigestible food is its chief cause, hence we see it here when the pasture loses its succulence and does not contain enough juice, and when, perhaps, along with this there is a scarcity of water. It may be called atony of the stomachs; the French call it "*Météorisation chronique*" and the Germans "*Pansen paresse*."

The present treatment of the complaint in this country is primitive, and almost useless. Rationally, after experience of very many failures with cow drinks, large doses of linseed tea (or as the Germans call it "linseed slime") would seem to be about the best treatment, and lately I have been using a combination of arecolin and veratrin and then strychnin given alternately every two hours in linseed tea, but I have not yet had sufficient cases to form a judgment on the matter.

A German veterinary surgeon claims (comparatively) wonderful results in several hundreds of cases he has treated in this way, and certainly it seems a more rational method than the pouring of many drastic mixtures (I won't call them purgatives, because they often don't act) into bovines, as with us. The medicine, containing the drugs mentioned above, is made up and sold as "*Arecoverol*" in Germany. All solid food is forbidden, and linseed tea used along with the medicine for many days.

(2) *Gastritis* may be due to irregular feeding, unsuitable food, animal parasites and *occasionally*, I think, to impure water or moisture. It isn't always caused by coarse indigestible grasses. Lack of proper chewing and rumination when the teeth are being changed may lead to it. Unsuitable com-

position of rations may be a cause of it. It may be true that coarse ingesta does not enter the abomasum, but true digestion takes place there, and this stomach is as liable to become acutely affected as the same organ with similar attributes in other animals. If starch and proteids are digested in the fourth stomach of ruminants, gradual excess of these, or a sudden great addition to the normal supply, may set up inflammatory changes or at any rate lead to grave disturbance of the digestive functions.

(3) In case of *impaction of the rumen relieved* by our so-called cattle purgatives, the fourth stomach and the bowels get *occasionally* acted on. Possibly this may be due to such irritants as croton beans arriving at the fourth stomach and the intestines. I wonder why the old instrument by which you could inject fluids direct into the rumen and by turning a stop-cock let out the gas, went into disuse. It had its advantages.

(4) "*Spewing of the cud*" is apparently due to indigestion following the giving of bulky inferior food. The rumen, perhaps filled with food of this kind, is also oversupplied at the same time or shortly after with water, and food is brought up into the mouth not of the right consistence to be formed into balls as in normal rumination, and hence is voided and not rechewed and swallowed. At the same time I should opine there is contraction of the rumen and possibly violent or spasmodic lessening of its volume. Both Armatage and Steel mention "dropping of the cud" in their books on the ox.

PROLAPSE OF THE RECTUM IN PARTURIENT MARES,

By C. W. TOWNSEND, F.R.C.V.S.

It was with much interest that I read the abstract upon this complication which was recorded in your edition of July 29th. Personally, I always look upon the condition as being one of the most serious and fatal that we have to deal with subsequent to parturition in mares.

Although this complication, luckily, cannot be described as being common, the high percentage of mortality that ensues when it is met with has often struck me as being both surprising and perplexing.

Whilst I quite agree with most of what Hamoir has written in connection with the subject, I still cannot quite understand why it is that the fatality should be so great when the complication occurs at or subsequent to parturition. Eversion of the rectum is a condition which no doubt every practitioner meets with from time to time, and we do not regard the sequel as necessarily a fatal one, in fact I look upon the result as being generally satisfactory. But in those cases in which the condition occurs at or subsequent to parturition I have only up to the present had one case recovery. I may add that this appears to be the experience of several practi-

tioners to whom I have mentioned this subject. My own percentage of fatalities have therefore been higher than those of Hamoir, who estimates his roughly at 92 per cent. which also seems very high.

In speaking of the causes of this condition, no doubt the violent expulsive efforts of the dam in getting rid of the foetus play an important part in bringing about this sequel, and in most cases I have met with the size of the foetus has been abnormally large. On the other hand my experience coincides with that of Hamoir in that the complication may occur after a perfectly normal parturition and in cases when the foetus has not been abnormal in size.

The author attaches considerable importance to the presence of hardened faeces in the rectum previous to and during parturition as being very likely to cause this condition. It has, however, been my experience that usually with the first violent abdominal contractions of the mother, the contents of the rectum are voluntarily expelled, this taking place before there is much pressure between the rectum and the foetus. Again, at the commencement of parturition the foetus seldom gets into the pelvic cavity, but only at the entrance. I therefore cannot regard the loaded rectum as an important factor in causing the eversion. I am more inclined to believe that the violent abdominal contractions of the mare during parturition, combined with the violent pressure which there must necessarily be upon the rectum during expulsion of the foetus, which latter must exert direct pressure upon the more or less imprisoned rectum, causing acute inflammation, expulsion and subsequent paralysis.

This sequence may possibly explain to some extent why it is that the fatality is so high when this condition occurs at or subsequent to parturition.

Treatment. Although we cannot regard this condition as a hopeful one, some attempt must be made to save the animal's life. Reduction of the prolapsed portion of bowel must first be performed, this is generally easy to accomplish; moreover, it is seldom that eversion of the prolapsed portion recurs, this is no doubt due to the fact that inflammation and paralysis soon set in.

The symptoms mentioned by Hamoir soon set in, and death almost invariably takes place in from two to four days after parturition. The symptom which I regard as being the most favourable one, is continued action of the bowels.

No doubt the therapeutical measure indicated is that advised by Hamoir, viz., resection of the prolapsed portion of bowel, but unless this is done early, before paralysis and necrosis has set in, this treatment is useless. I would like to ask how many owners of valuable mares would care to run the risk of this operation, and more particularly in the first instance.

In conclusion I may say that we seldom find this condition described in veterinary text books, and I would like to know what is the experience of other practitioners, both as regards the treatment they adopt and the results they have obtained.

TUBERCULOSIS OF THE UDDER.

During the course of my duties examining cows for tubercular mammitis, I have noticed the great preponderance of the affection in one or other of the posterior quarters of the udder, and thought it might be interesting to others if I recorded the observations of 50 consecutive cases. These were cases, both in town and country, proved by the biological test to be affected.

Right fore-quarter.		Left fore-quarter.		Right hind-quarter.		Left hind-quarter.	
2	Red	4	Red	13	Red	5	Red
1	Red roan	2	Light roan	1	White	1	Black
				1	Red and white	2	Red and white
				4	Light roan	2	Light roan
				2	Red roan	4	Red roan
				2	Blue roan	2	Strawberry roan
						1	Roan
						1	Yellow red
3		6		23		18	
Sheffield.				ERNEST J. BURNDRED, M.R.C.V.S., D.V.H.			

MONSTROSITY.

I was much interested in Mr. H. Thompson's case reported in your issue of August 19th, and he is to be congratulated on its very satisfactory conclusion. In the case which gives rise to these notes I was not so fortunate.

My patient was a medium sized two-year-old Ayrshire heifer in calf for the first time to a short-horn bull.

When I arrived I found that the owners had been at work for six hours, and all they had to show for it was the hindquarters of a heifer calf which they had cut off at the sacrum with a saw. Naturally the heifer was very much exhausted—practically in a state of collapse—and from the first I had little hope of saving her life. However, after administering a stimulant, I proceeded to make an exploration, but it was some time before I could even partially make out the state of affairs. After a little, I made out distinctly the now truncated body of one calf and the hindquarters of another, also, that there was no abdominal wall, the viscera floating about in the uterus. The diaphragm was intact, and then I found there was only one thoracic cavity. Two fore limbs were also within reach, but I was unable at that time to touch a head.

I need not detail my mode of procedure, suffice it to say that after several hours work, during which I removed everything within reach likely to take up room, of which there was little enough, I was quite unable to divide the calves. With the mass drawn within suitable distance, it was impossible to work, and *vice versa*, with room to work I could not reach the foetus.

Tuberculosis of the udder is usually defined as being a chronic mastitis, usually of one quarter, preferably a hind one, characterised by progressive induration and hypertrophy, and unaccompanied by heat or tenderness of the organ.

I have been surprised on occasions by the rapid course of the disease; an udder apparently normal at one visit, being found on second visit a month later to be markedly hypertrophied and indurated. Other cases again are not marked by any great hypertrophy but the induration is steadily progressive.

The owners were by this time "anxious to see the freak," to use their own words, and suggested slaughtering the heifer. Her chance of pulling through, even though the foetus had been removed, was practically *nil*, so she was killed, and I was then able to make an examination of the monster.

The thoracic cavity was formed by the sternum of each calf being divided mesially, and each half, instead of joining its fellow, was united to the opposing half of the other sternum. That is to say, the right half of sternum A was united to the left half of sternum B, or *vice versa*. A transverse section of the thorax was thus more or less rhomboidal in shape. The single heart was apparently normal in shape and structure, but somewhat larger than usual. There were two lungs of normal shape and size.

An accurate study of the abdominal viscera was difficult owing to the treatment. There was only one rumen, reticulum, omasum and abomasum, but where the bowel bifurcated to reach the anus of each calf could not be ascertained. The liver was very large, in fact it looked like two joined together. There was on the left side a small extra lobe exactly like the Spigelian lobe of the right side. There was only one spleen, but there were four kidneys.

Monsters of course are not rare, and my excuse for detailing this case at some length must be its rather unusual form.

In an article in *Le Journal de l'anatomie et de la Physiologie Normales et Pathologiques de l'homme et des Animaux*, July—August, 1906, M.M. Lesbre and Forgeot describe several cases of monstrosities in children which resemble this case so far as the formation of the thorax is concerned, but differ

from it in that the posterior extremities are not duplicated.

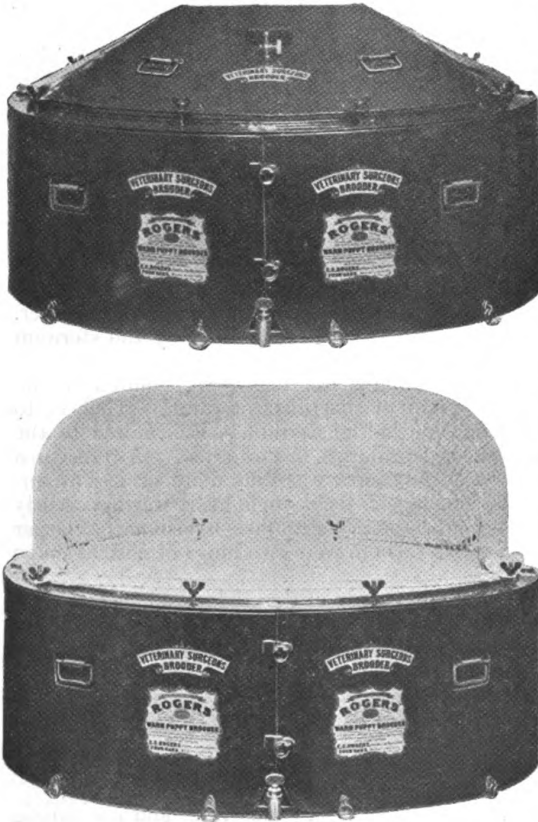
In describing the contents of the thorax, M.M. Lesbre and Forgeot state there are sometimes two hearts, which may be enclosed in the same pericardium, or the heart may be single, but by reason of its complicity, indicating double origin. As for the lungs, these are usually four in number, but the two innermost are more or less atrophied, and sometimes almost non-existent.

On that particular day I had not read this article, so possibly I overlooked atrophied lungs, but the heart certainly showed no signs of being complex, nor was it so large as might reasonably have been expected.

ALEC McTURK, M.R.C.V.S.

Swaffham.

A USEFUL APPARATUS.



The enclosed photos show a novel apparatus that I have found extremely useful in veterinary practice. It is known as a "Veterinary Brooder," not perhaps a very descriptive name, but as it originated from a "Puppy Brooder" invented by Mr. Roger, of Birmingham, the name has stuck to it.

The "brooder" consists of an oval chamber having an inside measurement of 36 inches x 24

inches and 12 inches deep. It has double walls which are filled with hot water, and being padded with thick felt keeps warm from ten to twelve hours. A high wire guard is fitted to the top to keep the patient safe.

I have found the "brooder" invaluable in cases of severe illness, such as gastritis, where the body temperature is subnormal, and after severe operations, as it restores the body heat far more effectively than hot bottles or warm blankets. Another great advantage is the wire guard, which enables me to leave the patient for some hours at a time without fear of the animal becoming chilled.

As will be seen by the second photograph, by fitting a top, which is supplied, the "brooder" can be converted into a very convenient lethal chamber, and I can vouch for its efficiency, having destroyed the largest dog that ever came into my surgery in 3½ to 4 minutes without a struggle, coal gas being used.

The apparatus is made and supplied by Mr. Rogers, of Four Oaks, Birmingham, who has spent much time and money in bringing the "veterinary brooder" to the finely finished state in which he now turns it out.

J. STEWART WOOD, M.R.C.V.S.

Parkestone, Dorset.

ABSTRACTS FROM FOREIGN JOURNALS.

CUTANEOUS SECONDARY MELANO-SARCOMATOSIS IN A DOG.

It is known that the secondary localisations of malignant tumours are especially glandular or visceral in their situation, and only very exceptionally cutaneous. Melanotic sarcomata sometimes form these exceptions. Moreover, the cutaneous localisation of melano-sarcomatosis may be compatible with a long survival of the subject; but sooner or later cachexia and mortal visceral metastases are produced. Ball and Cuny (*Journal de Méd. Vét. et de Zootechnie de Lyon*) relate a case illustrating this condition.

The subject was a seven-year-old dog, which presented, in the region of the internal phalanges of the left fore foot, a tumour of a black colour, of the size of a small walnut, of irregular shape, elongated transversally, firm in consistence, and ulcerated at one point of its surface. The owner had noticed the presence of this tumour six months at least before bringing the dog for examination.

A number of secondary melanotic nodules were found upon the skin upon the whole surface of the body (except the head), but principally about the flanks, limbs, and tail. The nodules had multiplied gradually. They were rounded, hemispherical or lenticular, flattened, smooth upon their surfaces, the colour of Indian ink, and ranged from the size of a lentil to that of a nut.

Upon the posterior limbs, the metastatic nodules were chiefly grouped upon the anterior portion from the femoro-tibial joint to the metatarses. Upon

the anterior limbs, they were found especially on the dorsal aspect. On the inferior aspect of the tail, a series of small nodules were found arranged in an almost straight line.

There was no indication of either glandular or visceral metastases.

Histological examination of the primary tumour showed it to be a round-celled melano-sarcoma. It comprised a rather well developed connective tissue framework lodging numerous rounded, polyhedral, or globular melanotic cells. But, as is often observed in leuco-sarcomas or ordinary sarcomas, certain parts of the tissue were composed of fusiform or stellate melanotic net-work. The melanotic infiltration of the sarcomatous cells was not of the same intensity throughout the tumour, but unequal, varying in different portions of the preparation.—(*Annales de Méd. Vét.*)

MELANOSIS IN ADULT CATTLE.

According to Ostertag, bovine melanosis is usually congenital, and seems to disappear with age. Beel (*Zeitschr. f. Fleisch-u Milch Hygiene*) states that he has often found melanosis in calves, and the following observation by him seems to support the view of the ulterior disappearance of the pigmentary deposits.

A cow of two and a half years showed lesions of the lung, liver, meninges, spinal cord, etc., which are usual in calves, but with this difference—that these organs did not show the characteristic black tint, but were dark-brown in colour. All the long bones showed, upon their sectioned surfaces, a dark-brown colouration which was especially pronounced at the exterior, but diminished gradually as the more internal portion of the bone was reached.

This case certainly seems to confirm the view that the melanotic deposits retrogress with the advance of age. Nevertheless, typical and well-marked lesions may persist in adult animals, as the following observation by Beel testifies,

A cow of five years old showed deep black deposits in the periosteum of the inferior maxilla, the connective tissue of the parotid gland and of its excretory duct, the aponeuroses of the internal masticatory muscles, the retropharyngeal glands, the palate and soft palate (where the deposits were in starry spots), the tracheal mucous membrane, the first fifteen cartilaginous rings of the trachea, the lung, the liver, and the dura-mater (which was absolutely black). The renal calyx presented some spots; and a single small irregular deposit was upon the heart. The connective tissue of the coccygeal muscles was deep black, while the remainder of the muscles were free from lesions, as were also the spinal meninges.—(*Annales de Méd. Vét.*)

THE EMPLOYMENT OF CHLORAL IN THE TREATMENT OF EVERSION OF THE BOVINE UTERUS.

Knoll describes (*Tydschrift voor Vecartsenijkunde*), the treatment he adopts when called to a case of eversion of the uterus in a cow. He commences by administering from 35 to 40 grammes of chloral in

a lukewarm draught of decoction of linseed. Narcosis quickly follows, and is generally obtained during the time which the practitioner spends in changing his dress. The cow is then placed in a position strongly inclined from behind forward, which is accomplished by placing two sacks filled with hay under her. Reduction is then effected in the most convenient manner, and a relapse is prevented by the application of a suture. The animal remains in the same position until the narcosis disappears, which speedily takes place.

By this method of procedure Knoll has never lost a cow affected with uterine eversion. He has never observed any untoward results from the employment of the chloral, though he admits that, in the event of slaughter becoming necessary, it may communicate an odour to the meat. He employs the dose of 35 grammes in preference to the larger one of 40 grammes. He has also used chloral with good results in cases of excessive straining after parturition.—(*Annales de Méd. Vét.*)

W. R. C.

THE NATAL VETERINARY MEDICAL ASSOCIATION.

The second annual general meeting was held in the office of the Principal Veterinary Surgeon, Maritzburg, on Friday, June 30. The following members were present: Messrs. H. Watkins-Pitchford, President, in the chair; W. M. Power, Vice-President; F. J. Carless, S. B. Woollatt, C. M. Sharpe, C. H. Cordy, J. B. Collyer, F. Hutchinson, and A. W. Shilston, Hon. Secretary.

Visitors: Capt. McKenzie, A.V.C., Mooi River, and Mr. F. A. Verney, A.V.S., Basutoland.

The minutes of the last meeting were read and confirmed.

A letter of apology for non-attendance from Mr. Amos, Durban, was read.

CORRESPONDENCE.

The SECRETARY read the correspondence which had taken place with the Cape of Good Hope and Transvaal Societies relative to the South African Veterinary Surgeons Bill and the proposed Federation of Veterinary Associations.

A discussion on the question of Federation followed, and a resolution was passed in favour of the scheme proposed by the Transvaal Society.

ELECTION OF OFFICERS.

The following officers were unanimously elected for the ensuing year:

President.—Mr. H. Watkins-Pitchford, F.R.C.V.S.

Vice-President.—Mr. F. J. Carless, M.R.C.V.S.

Hon. Sec. and Treas.—Mr. A. W. Shilston, M.R.C.V.S.

The SECRETARY read the balance sheet for the past year which showed a balance in hand of £15 14s. 3d. This was passed.

The PRESIDENT then demonstrated the method of employing a hæmoglobinometer of his own design; this instrument is very compact, simple in principle and without any special requirements, enables one to quickly and accurately determine the hæmoglobin contents of a patient's blood.

A blood-collecting outfit was also shown; the appliance, which is no larger than a thermometer case,

enables one to make a dilution of blood of known strength which can be kept indefinitely; from this dilution, blood counts and films for microscopical examination may be made at any time.

The Natal Anti-toxic syringe was exhibited and its use explained; the syringe contains one dose of Antivenene, is of convenient size for carrying in the pocket, and in case of snake bite is readily available.

Mr. CARLESS exhibited a number of dental instruments of useful designs. Several specimens of parasites were shown by the Secretary.

The appliance for testing the Arsenical strength of dipping fluids, patented by Dr. Pitchford, was exhibited and the method of using it demonstrated with dips of various strengths.

The meeting closed with a vote of thanks to the President.

A. W. SHILSTON, Hon. Sec.

Foot-and-Mouth—West Hallam Outbreak.

In the present outbreak at West Hallam, Derbyshire, the disease was of a mild character, and presented the following symptoms: The earliest indication of anything being amiss with the stock was revealed to the owner on Friday, the 18th Aug., in one of the cows slaving abnormally at the mouth, and a similar condition in another cow on the following day. On my arrival at the farm, on the forenoon of Sunday, the 20th Aug. I found three dairy cows affected, all in different stages of the disease, and as I had the opportunity of examining

these and other two cases later developed, the following report may be of interest to owners of stock.

The earliest clinical symptoms were smacking of the lips, a profuse flow of saliva from the mouth, a watery discharge from the eyes and nose, which ultimately became thicker in consistency, an abnormal pink hue of the lining of the mouth—the roof of the mouth was covered with petechial (blood) spots. Careful examination of the toothless border of the upper jaw as well as of the tip of the tongue revealed the characteristic vesicles (bladder, bleb, or blister) seen in this disease. These were filled with a clear fluid and were more oblong than oval in shape. The temperature at this stage varied in the different animals affected from 103° F. to 104° F. The animals were dull, went off their feed and the bowels were constipated.

In twenty-four hours from the first clinical symptoms the disease was fully developed, and in forty-eight hours the skin over the vesicles shrivelled up, became pale in colour, and on the third day was detached, leaving behind watery erosions, which healed very quickly, and were recognisable by the sharply-marked limits between the sound tissue and the eroded areas which result from the bursting of the vesicles. Within the same period the inflamed appearance of the mouth passed off, the temperature fell to normal and the animals again commenced to ruminate and take food.

In one case vesicles were found on the feet between the digits (toes) which ran a similar course to those in the mouth. This animal was stiff in the act of rising, but could not be said to go lame. (From a column on Foot-and-Mouth disease, by Alex. Levie, F.R.C.V.S. in the *Derby Daily Express*).

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.	
	Outbreaks		Animals				(including Farcy)		Counties Affected			
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Animals.	Out-breaks	Animals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.
Gr. BRITAIN. Week ended Aug. 26	14		20		1	5	3	3	London 2 Middlesex 1		41	320
Corresponding week in { 1910 1909 1908		29	34				11	17		3	18	156
		17	22				5	10		5	29	222
		16	18				17	58			23	212
Total for 34 weeks, 1911	561		704		8	425	125	203		305	1737	20257
Corresponding period in { 1910 1909 1908		980	1186		2	15	248	762		335	971	8712
		887	1177				366	1343		470	1226	10789
		742	995		3	112	545	1742		636	1452	8083

Board of Agriculture and Fisheries, August 29, 1911.

Parasitic Mange (outbreaks)

IRELAND. Week ended Aug. 26	...	...	...	...	...	...	...	...	3	2	68
Corresponding Week in	1910	...	...	...	...	...	...	4	2	...	20
	1909	...	...	...	...	...	...	...	...	2	122
	1908	...	1	1	...	...	...	...	...	3	17
Total for 34 weeks, 1911	...	7	12	...	...	2	3	51	253	90	1575
Corresponding period in	1910	5	8	...	...	1	2	52	348	71	1693
	1909	5	5	...	...	...	...	63	305	82	1467
	1908	6	9	...	...	...	...	31	272	130	2749

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 28, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The Royal Agricultural Society and Tuberculosis.

The Royal Agricultural Society has just issued a booklet of 19 pages, entitled "Tuberculosis as regards Heredity in Causation and Elimination from Infected Herds." Practically the work is a long article upon this important subject, written by no less an authority than Sir John M'Fadyen. The booklet is published for the Society by Mr. John Murray, 50a Albermarle Street, W., and its price is 1/-. Members of the R.A.S. may obtain copies at half price by applying to the office at 16 Bedford Square, W.C.

This small work will probably exercise a wide educative influence, from its excellent popular presentation of the subject. It is divided into two parts of nearly equal length, the first dealing with the question of heredity. In this the genesis of the old belief in the importance of heredity in tuberculosis is first explained; and the difference between congenital tuberculosis and an hereditary predisposition to the disease is clearly laid down. The frequency of the former is indicated, and the evidence for and against the latter weighed; and the relative unimportance of both in the causation of tuberculosis in comparison with the far more potent causal factor of contagion is well brought out.

This leads up to the second part of the booklet, which is concerned with the eradication of tuberculosis from a herd. It consists of a careful exposition of the principles underlying an attempt to transform an infected into a tubercle-free herd and the details of their application, full consideration being given to the varying circumstances of the individual case. The various difficulties and discouragements attending such an attempt are not minimised, but, with their causes, are fully explained. No details are given regarding the technique and reading of the tuberculin test, it being apparently tacitly assumed that this will be entrusted to professional hands. Directions as to the intervals between the successive testings and re-testings are given, as also are full explanations of certain well-known apparent failures of the tuberculin test.

In conclusion, reference is made to the economic aspect of the question for the individual owner; and here it is fully admitted that, for the average British farmer, the task of eliminating tuberculosis from a herd is far from easy and is often costly, while the prospect of immediate financial advantage from it does not appear great at present. It is pointed out, however, that the conditions are different in the case of valuable pedigree herds, in which the expense attached to the attempt at eradicating the disease is usually less, while the prospect of obtaining a speedy financial return is greater. A single concluding sentence indicates the obligation upon pedigree owners to lead the way in the campaign against bovine tuberculosis.

The official source and the authorship of the booklet alike ensure it a wide reading, which its perusal convinces us is more than deserved. We doubt whether any work of so small a size has ever been published which is so valuable to the agriculturist. Of course it contains nothing of direct value to the veterinary surgeon, but even to him it may prove of very considerable indirect utility. A veterinary surgeon undertaking the eradication of tuberculosis from an infected herd cannot do better than direct his client's attention to this booklet as a comprehensible exposition of the principles of the operation.

Preservation of Tr. Iodine.

The addition of a small quantity of Calcium carbonate to Tincture of Iodine prevents the formation of iodic acid and preserves the tincture at a very small cost.
—*La Clin. Vet.*

Prosecution of a Veterinary Surgeon.

Mr. William Watt, M.R.C.V.S., 17—21 Lillie Road, Fulham, was the defendant in a summons issued against him by the Royal Society for the Prevention of Cruelty to Animals charging him with aiding and abetting two men, Frank Pearson and George Garner, employed by a firm of coal merchants, in ill-treating a horse used for drawing a coal wagon.

Mr. Bevan, K.C. prosecuted, while Mr. Pheasant solicitor, appeared for the defendants.

In explaining the circumstances counsel said the animal was found to be in a most deplorable condition. There was at the point of the hip an open wound communicating with a sinus some eighteen inches long from which pus flowed freely. A *post-mortem* examination showed that the pus had soaked into the muscular tissues, which had become decomposed and rotten. Mr. Watt told the officer that if the Society wanted a fight they could have one. Counsel commented on the responsibility of Mr. Watt in this matter. He had chosen to take on himself the responsibility of sending out the horse. It was not a case of mistaking the character of a particular disease. Mr. Watt had assumed the responsibility for the working of the horse. A case on somewhat similar grounds went to the Divisional Court, but it was dismissed, against the veterinary surgeon on a technicality. The Court declined to convict because of the form of the summons which was for knowingly counselling the owner to work the animal, instead of with having caused it to be worked.

Rupert Gildersleve, the Society's inspector who stopped the animal, said—the horse was very lame on the off hind leg. Matter was running down the limb and a loin cloth was placed so as to cover the wound. The wound was a few inches below the angle of the hip. The loin cloth was covered with matter. The horse was not perspiring.

Mr. Pheasant: Do you wish the Court to understand that the horse was sent out in the state you describe?—It was in that condition when I saw it. Two veterinary surgeons (Messrs. Case and Piesse) were called to see the horse—one the same day, the other a few days later.

So there was some doubt about the condition?—I don't know about that.

Can you explain why no process was taken before July 15th, although you allege the offence was committed on June 21st?—That is a matter for the head office.

Mr. Bevan explained that the delay was due to the fact that in such special cases as this no prosecution is instituted until the facts have been laid before the Committee of the Society.

Mr. Alexander Piesse, M.R.C.V.S., Brixton Road, said he examined the horse on July 28 at the request of the Society. He described the nature of the wound on the point of the hip, and said the animal went lame on the off hind limb. As he pressed the parts pus came out of the wound.

Mr. Bevan: How did it come out?—In a thick stream proving that there was present a large accumulation of pus. There was an overshot fetlock, and the ligaments were thickened.

How long do you think the horse had been suffering?—Not less than three months, may be longer.

Was it fit to be put in a cart?—No.

In cross-examination witness said a little gentle movement of the horse would cause the pus to ooze out of the wound and so decrease the amount. By a gentle movement he meant a walk round the yard. The pus would have to travel 12 inches before it reached the mouth of the wound.

Mr. Pheasant: A sinus twelve inches long is not exceptional?—Yes, it is exceptional. The sinus had been

in existence a considerable time. Had an operation been performed it would have entailed considerable expenditure.

A horse sensitive to the touch as you say this one was is not necessarily evidence of pain?—No.

Mr. de Grey: What if it flinched?—If it flinched out of the ordinary then it would indicate pain. I can always tell whether an animal flinches in pain or in nervousness. I cannot imagine any one working the animal in the state I saw it. Witness added that a diseased bone could only be discovered superficially by the smell. He found no evidence of it externally. So long as the pus remained there must be pain.

Mr. Bevan: You would not call gentle exercise to place the horse between the shafts of a coal wagon?—Oh, no.

Arthur Case, a veterinary surgeon, of 706 Fulham Road, said that on June 21 he examined the mare at Messrs. Usher's stables and found her lame on the off hind limb. There was a wound on the thigh about two or three inches below the point of the hip. The wound was discharging pus. The muscles of the part were very much wasted. The fetlock joint was very much enlarged and overshot. On manipulating the part in the region of the wound he found the animal suffered pain, and it was not fit to be worked. The wasting had been going on for some time, and the mare had been trying to rest the part as much as possible. The wound was of some months' standing. On July 4 the owners had the mare slaughtered, and witness subsequently made a post-mortem examination. The flesh was very decomposed with pus, and the hip bone tissues were diseased and had been in that condition for some time, a matter of months. The horse could not have been worked without pain.

Mr. Pheasant: Could you not come to any conclusion that there was diseased bone there without cutting the parts open?—No.

Would you form any opinion as to where this matter was coming from without an operation?—You could feel it down the bottom.

Could you tell there was necrotic matter or not in the diseased tissues before the post-mortem?—You could form an opinion.

You don't agree with Mr. Piesse that from external examination no veterinary surgeon could discover it?—I agree with Mr. Piesse.

Mr. Piesse said there was no evidence of a diseased bone. Do you agree with Mr. Piesse there?—Yes. If there had been a diseased bone we should have detected the smell.

Did you really conduct this post-mortem?—The post-mortem had already been conducted.

Mr. De Grey: It was a *post* post-mortem.

Mr. Pheasant: Did you cut up the parts?—No.

Did you find any of the parts missing?—No. I examined the hip bone. The end of it had been cut off.

Will you swear the bone was intact?—Yes. It was divided in two.

Mr. De Grey: How could it be intact if it was divided in two? If I cut you in two you would not be intact?—No.

Mr. Pheasant: Had it been divided before or after death?—After death.

Are you prepared to swear that?—I am.

Do you suggest that wasted muscles caused pain?—No wasting causes pain unless it reaches a certain stage.

Had this reached the stage when the wasting would have caused pain?—I should say not.

Do you suggest that the enlarged fetlock joint is necessarily evidence of pain?—It might and might not be.

Do you suggest the horse resting his leg was evidence of

pain?—No. The accumulation of pus would in itself cause pain on pressure.

And the more the pus was removed the less pressure and less pain there would be?—Yes.

The using of the limb would help to discharge or dispose of the pus from the sinus?—Yes.

Mr. De Grey: Using it at any kind of work?—No, gentle walking exercises.

Why not in a van?—Because the van would cause too much strain on the healthy part. Pain would also come from where the matter had collected, pressing on that particular part.

Would it be like a festered finger in a human being?—Yes.

Mr. Pheasant: Where were the thickened ligaments?—On the fetlock joint.

Was there pain there?—Yes. It was painful to the touch.

Do you know as a matter of fact that while this mare was standing in the stables by your directions the pus accumulated to a very great extent?—Yes.

The question of exercising is a matter which veterinary surgeons differ as to what kind of exercising should be done?—Sometimes.

I take it this mare was not in such a terrible state that you could not understand anyone sending her out?—No.

In reply to Mr. Bevan witness said the muscles and tissues of the hip bone were discoloured and blackened. Disease of the bone was not the same as diseased muscular tissues. There was no diseased bone in this case.

This was the case for the prosecution.

Addressing Mr. De Grey, Mr. Pheasant said an exceptional step had been taken in this case by the summoning of a veterinary surgeon, for aiding and abetting the other defendants. According to law he could not be guilty of cruelty by giving an error of judgment.

Mr. De Grey: The veterinary surgeon gave certain advice in this case. If he did that *bona fide*, that is to say having the means of forming the right judgment and honestly forming that right judgment according to the best of his ability and skill, and if he can convince me that that was so, of course he goes free. I did not see the horse, but it seems to me that no one ought to have worked the horse in the state it was.

Mr. Pheasant went on to say that the prosecution had exaggerated the case. If the animal had been in the state as had been described no one would have taken the risk of sending it out on the streets.

Mr. De Grey: Hundreds of animals in a bad state are worked on the street on the off chance that they will not be spotted.

Mr. Pheasant added that his defence was that so far as the veterinary surgeons were concerned it was purely a matter of opinion. The mere fact of there being a small wound which was discharging pus was not in itself an actual sign of pain to the animal. If a veterinary surgeon was to be prosecuted for saying a horse with pus and no pain could be worked, then a doctor should be prosecuted for sending a child to school with a boil on the back of its neck.

Some questions arose as to the time which expired from the date of the offence June 25th to the date of the summonses July 15th.

Mr. Sidney Polhill, solicitor to the Society, explained that the delay was caused by the fact that whenever a veterinary surgeon was reported for a summons the matter was carefully considered by the Council before proceedings were taken.

Garner, the carman, said he had used the horse about six or seven months. While driving it he had frequently passed R.S.P.C.A. inspectors. There had frequently been a discharge from the off hip. He had never seen any signs of lameness.

Cross-examined, witness said the horse was drawing a ton of coal when he was stopped by the Society's inspector. He washed the off hind limb every morning. Mr. Watt ordered him to put vaseline on the wound. Witness did not put a loin cloth on the horse to hide the wound and prevent anyone stopping him. Mr. Watt saw the animal frequently. Three days after he commenced to drive the horse he asked Mr. Watt if it was fit to work and he replied "Yes, but very lightly." He grumbled about it to his mates. It was an unthankful job to wash off the matter every morning. The wound was about as big as a pin-head.

Robert Joseph Nicholls, a horse slaughterer in the employment of Harrison and Barber, Garratt Lane, Wandsworth, said he went to Messrs. Usher's yard to slaughter the horse, but instead of doing so he took it away with a line behind his cart. It was as sound as his own horse. An abscess had broken the day before inside the thigh and no matter was seen. Eventually he slaughtered it and found the off-hind hip bone had been broken. It had been joined together with a white fibrous substance.

Mr. Pearson, manager, said his employers had never had any complaint about their horses before. The horse in question had a small place on the off hind hip when they bought it. It discharged matter, and Mr. Watt's attention was called to it. Working the horse seemed to have a good effect upon it. He saw no signs of lameness or he would not have had the horse worked.

Cross-examined, Mr. Pearson said that the wound on the hip got no worse during the time she was under his care. Mr. Watt told him that the wound could not be got rid of without an operation. He did not advise an operation, but told witness to work the animal lightly in that condition. Witness did not know why the horse was not operated upon. He could not say why the loin cloth was used. It did not cover the wound. He did not tell the Society's inspector that "we have protected ourselves by calling in a veterinary surgeon." He said "We have been working it under the veterinary surgeon's orders." To his knowledge Mr. Watt had not treated the wound. Possibly the horse in that condition was not a credit to Messrs. Usher and Co., but as Mr. Watt advised light work he did that. If the wound had got worse he would have sought other advice. The horse was destroyed because Mr. Piesse told him an operation would be an expensive matter, but if he had it done away with it would be cheaper and settle the matter altogether.

In reply to Mr. De Grey, witness said that so far as he could see the horse did not suffer pain by being worked. If he had a sore on his own hip he would follow his medical man's advice even if he suffered some pain by working.

Mr. Watt, giving evidence, said he had been in practice 14 years. He had a contract with Messrs. Usher and Co. to look after their horses. He first saw the horse in question 18 months ago. There was a sinus on the off-hind hip, which discharged. The opening of it was about the size of a probe. About three months later the sinus got closed and caused lameness. He reopened the sinus with a lance and the matter came out. Then he told the carman to keep it clean. A day or two later the horse started work again. The condition of the off-hind quarter did not vary, and the wound did not close up again because of the continual movement of the leg. If the passage had been allowed to close there would have been pain caused by the pressure of the pus. So long as the pus came away freely there was no pain, and working would help to discharge the pus. In his opinion to work the animal was the proper course to adopt. At no time did he see any symptoms of pain or distress. If an operation had been performed it would have been problematic as to whether it would have cured the wound. That was Mr. Piesse's opinion too.

The wasted muscle was affected very little by the movement of the legs, the manipulation of which would not cause pain because there would be no pressure so long as the pus was being ejected from the sinus. The fetlock being overshot was not evidence of pain. If he had had any idea the summonses were going to be issued he would have called in other veterinary surgeons to examine the horse before it had been slaughtered. When the animal stood in the stable it got worse, because the pus accumulated. Vaseline was put on the wound to prevent the discharge sticking to the hair and excoriating the skin.

Cross-examined, witness said it was not necessary to slaughter the horse. The head of the firm did that to save the expense of an operation. He would have been exceeding his duty to have called in another veterinary surgeon's opinion when Mr. Piesse said the horse was not fit to work, and, further, he did not think it was necessary. During the past 18 months the sinus had extended three inches, being about twelve inches in length when it was stopped. The wasting of the muscles was caused by the treatment for the discharging wound six months before it came to Clapham Junction. In his opinion the discharge was caused by a piece of dead tissue which might have come from the broken hip. Some foreign body would cause irritation causing the pus. There was no pain caused by the wasting of the muscles. He had not seen other horses working while suffering from a wound like the one in this case.

Wm. Hunting, F.R.C.V.S., Examiner in Surgery to the Royal College of Veterinary Surgeons, said he had heard the evidence in the case. An overshot joint might be a sign of previous pain, and not evidence of pain in that particular joint. No pain would be caused by the limb being worked in the presence of these wasted muscles. With regard to the sinus the animal would not necessarily be caused pain by working. If it was allowed to remain idle the pus would accumulate and cause pain. To work the horse would relieve it by ejecting the matter from the sinus. In the morning the sinus would be sore. He had experience of a case where a sinus took two years to heal up, and the horse was worked all the time. He operated on the animal unsuccessfully, but it worked without lameness for two or three years after and ultimately healed spontaneously. In his opinion Mr. Watt's advice was good and sound in the present case. He had known many cases where horses worked without pain with open wound.

Cross-examined witness said he was of opinion that the sinus was becoming blocked up on the day it was stopped. It caused the horse to go lame. There must be some inflammation to produce pus.

John Watson Brownless, M.R.C.V.S., Police veterinary surgeon, corroborated the last witness's evidence.

Mr. De Grey said he was at a great disadvantage in not seeing the animal in question, because he could judge better by personal inspection than by any amount of evidence as to whether a horse was suffering pain or not. It was a difficult case. He exonerated Garner, the carman. With regard to Mr. Pearson he had sheltered himself under the advice given by Mr. Watt. He (the Magistrate) had to say whether he was convinced without seeing the animal that it was lame and suffered pain. It would take a good deal to convince him that a horse with a sinus as had been described was not suffering pain when worked. Mr. Hunting had said he had known a case where it was possible, but was it possible in this case? Mr. Pearson said Mr. Watt told him he might work the horse, and added "We have protected ourselves." It was not a nice thing to say. Whether it was said or not he could not say. Mr. Pearson denied that he said it. It was clear that he worked the horse on Mr. Watt's advice, and he thought he was safe. Mr. Watt was uncertain when he saw the horse last. Mr. Pearson said Mr. Watt

went to the yard two or three times a week, but Mr. Watt said he went there about twenty times a year. He was not satisfied that Mr. Pearson was justified in thinking the advice he had, held good for such a long period of time. The horse was undoubtedly lame when the Society's inspector and Mr. Piesse saw it. Mr. Pearson ought to have known it was unfit for work in spite of the advice he had from Mr. Watt. With regard to Mr. Watt there was a great difficulty in his (Magistrate's) way. He had given evidence in a honest and straightforward manner. It was not a pleasant position for him to be in, to be in the service of a firm which employs a number of horses. He had said "I am there to do simply what Messrs. Usher's want me. I am their servant." It did away with his independence, and thereby independence of judgment, which was a very important matter. He might hold that Mr. Watt was not giving his advice independently and straightforwardly. Mr. Hunting had said he knew of another horse in a similar condition had been worked for two years without being any the worse for it. That being so he should say that Mr. Watt gave honest advice. He might have thought it was the right thing. Nevertheless it was difficult to think that a professional man should give such advice. The summons against Garner and Watt would be dismissed, while Pearson would have to pay 40/- or a month.

Ritualism in Surgery.

I should like to say a few words here on what is now euphuistically spoken of as "surgical technique," formerly as wound treatment, particularly with regard to its ritual and its expense. The great principles upon which operative success depends are to-day exactly the same as when Lister first preached the gospel of antiseptics. Absolute cleanliness is the essence of the measures by which he carried those principles into practice. Many as have been the modifications of our operative methods since the early Seventies of last century, it is upon the completeness with which this central idea has been secured that the success of each method depends. It needs but little ceremonial to make and keep us clean either in body or in spirit. Simplicity, sincerity, and steadfastness will suffice in both. The modern tendency to make of a surgical operation a kind of ritualistic function is greatly to be deplored. Harm often results therefrom I am sure. We can be careful without being fastidious, and efficient without becoming hysterical; and elaboration of ceremonial will not condone a want of manipulative dexterity or absence of readiness in emergency. Soap and scalding water are our safest and simplest antiseptics, and if we add spirit to the list, the scruples of the most sensitive of surgeons should be satisfied. [From the Address in Surgery, at Birmingham, by Jordan Lloyd, F.R.C.S.]

Why has Dr. Rutherford resigned?

A correspondent in last issue puts it up to *Canadian Farm* to tell why Canada is losing the services of so valuable an official as Dr. J. G. Rutherford at such a critical time in the live stock industry of this country. If it is a question of salary, or of the United States, as our correspondent points out, trying to secure his services, then those responsible for his going are deserving of very grave censure indeed. We are inclined to the view that the reason for his leaving is not a question of health or of salary, but one of friction in the inner working of the department. The persons responsible for that friction should be removed or put where they can do no harm, and every effort made to retain Dr. Rutherford's services.

The Department of Agriculture loses a particularly capable outfit of brains in Dr. J. G. Rutherford, C.M.G., Veterinary Director-General and Live-Stock Commissioner of Canada, who leaves the Government service for work that will bring him more money and greater peace of mind. Rutherford knew his job up and down, straight through, and clear across. He had been a Member of Parliament and knew what the people wanted. He had been a farmer and knew what the farmers wanted. He was trained as a veterinary surgeon in the thorough English school and knew what the animals wanted. When he took hold in 1902 he found nothing to his hand except an Act of Parliament which was so much waste paper. In nine years he had created a health-of-animals branch, a meat and food inspection service with a hundred inspectors, a biological laboratory with a staff of trained pathologists, and a live-stock branch that is doing much to promote friendly relations between breeders and their market. Quarantine work has been systematized and the importation of live stock into Canada is now thoroughly under the control of the department. Hog cholera has almost disappeared; glanders has been stamped out except in Saskatchewan; cattle mange, horse mange, sheep scab, and many other minor diseases have been effectively handled. Rutherford brought unusual powers of special investigation to his duties. For example, when an epidemic broke out among the cattle in Nova Scotia he discovered that it was due to a poisonous weed. He brought in sheep that throve on the weed and put an end to the epidemic. As president of the American Veterinary Medical Association, Rutherford had the chief hand in forming the International Commission for the Control of Bovine Tuberculosis, whose good work has just begun. Incidentally Rutherford did a lot of veterinary education by taking it out of private hands and making it a university course. Like many brilliant, original, and public-minded civil servants, he seems to have been too good to keep.—*The Canadian Collier's*.

Seizure of pork.

The Municipal Veterinary Officer of Health, Rheims, ordered the seizure of a carcase of a cryptorchid pig which also showed signs of nephritis. The owner sued for its value on the grounds that cryptorchidism was not harmful to health, and the authorities could not seize on that account.

The plaint was dismissed on the evidence of the strong sexual and uriniferous odour of the flesh.—*La Clin. Vet.*

College Crest Appeal Fund.

Amount previously acknowledged	£12	17	0
Messrs. Greaves and Faulkner	1	1	0
Mr. Nicholson Almond	1	1	0
Edwards	1	1	0
Percy Penhale	1	0	0
H. G. Bowes	10	6	
H. J. Dawes	10	6	
F. T. Thornton	10	6	
G. H. Harris	10	0	
Wm. Penhale	5	0	
	£19	6	6

Personal.

SMART-BICKLEY.—On Aug. 19th at the Registrar's Office, Dartford, William W. Smart, I.S.O., M.R.C.V.S., "Ypsilanti," Bexley, Kent, to Julia, widow of the late C. C. Bickley.

WOODROW.—Aug. 25, at Onslow House, Swinefleet, Yorkshire, to Mr. and Mr. John S. S. Woodrow, a daughter.

CORRESPONDENCE.

"SIDE-LINES" IN PRACTICE.

Sir,

As one who learned pig spaying as a post graduate and found the general castrating in a country district save writing cheques for petty cash, I endorse your suggestion that in these hard times no castrator but a qualified man should have a chance where the latter resides. The worst of pig cutting is that one is so differently treated when going to a farm for this purpose instead of to visit valuable animals in illness. I am not referring to loss of dignity, which is bad enough, but the invariable waste of time. Farmers and their men will finish a distant job when they hear the whistle or see the castrator's nag in the road; and the sow and pigs have first to be driven home and then to be separated, and oftener than not the little pigs break through the rotten sides of the pound when it is thought that they are at last secured. All this vexatious waste of time and dignity and then the smell of "pig" and the filth about one's clothes, tends to make the established practitioner or the senior partner more willing to endure the vagaries of the pet lady's pet dog than "gather gain by every wile consistently with honour"—plus "gommer."

Turning to another neglected branch of small practice, or a "side-line" as store keepers would call it: how we have neglected our opportunities in the direction of avian pathology! All sorts of men write books on the diseases of poultry and of cage birds, but never a veterinary surgeon: if we except the work of Salmon in America. No veterinary Surgeon was on the Committee of Inquiry on Grouse Disease, whose splendid report is now to hand in two volumes with coloured plates. Instead of leading in such a matter, we are spoon fed out of the dish prepared for laymen, by eminent medical authorities. This voluminous report is simply stuffed with material of interest to any but our most advanced men, and the work should certainly be acquired for the College Library: the cost (two guineas) being too great for those who cannot subscribe one guinea to keep the veterinary flag flying at Red Lion Square.

Elderly graduates of the London school will read with satisfaction that the late Dr. Cobbold was right in attributing the grouse disease to strongylosis and not to *Bacillus coli*, as suggested by Klein. If I might offer an opinion, I should say that the many bacteria one finds in birds are chiefly due to failure of the liver to eliminate toxins produced in the intestines, especially the caeca, where the movements of ingesta are very slow and the ingang and the outgang is the same, and the one function is suspended while the other is performed. The condition of the livers of many birds sent me for examination as to parasites is such as to point to toxæmia—as a result of excessive numbers of thread worms in the caeca, or of tapeworms in the duodenum, or both. These macroscopic parasites may be present in a bird which succumbs to bacterial necrosis of the liver induced by coccidiosis, but I will forbear to speak of subjects about which the new generation of better educated men are so much more informed: my excuse for saying as much is, that I have exceptional opportunities of seeing gallinaceous birds, and many wild specimens, besides caged creatures after death. Let me use what space you may care to grant me, Mr. Editor, in recommending practitioners to take up the subject of avian disease, reading Salmon and a good deal on parasitism in Neumann, and, if they can find what they want in dear old Cobbold, (I confess I never could find anything in that learned man's books, as he adopted a pleasant conversational tone and a discursiveness primarily introduced to render interesting what was then thought very distasteful) and borrow indefinitely the Report on Grouse to which allusion has already been made. Our young men have had the training that will enable them to quickly grasp and assimilate all that is worth having, and then, as the result of their own further observation, give us sound advice to retail to poultry owners. One of the most important matters elucidated by the Commission was the life cycle of the *Trichostrongylus*

pergracilis. May we not suppose that other strongyles develop from the ova passed out on the ground in a few days, become motile embryos, perch upon the plants most likely to be eaten by the normal host, and again become capable of reproduction in something like a fortnight! If the strongyles of colts, and minute worms which play such havoc with sheep pass a certain time upon the ground as soft embryos, may we not hold out hopes to our much tried clients that, by heavy manuring with salt (and other worm killers with higher manurial value) the plague of strongylosis may be overcome. If we except the ravages of tapeworm in lambs, it may be said that strongyles are the greatest source of loss by way of parasitism that farmers and poultrymen suffer.

OLD ORADIAH.

THE PHYSIOLOGY AND PATHOLOGY OF RUMINANTS.

Sir,

The various articles and discussions on this subject that have appeared in the last few numbers of *The Veterinary Record* are interesting and instructive; they go to show that finality has not yet been reached in this branch of veterinary science.

I therefore venture to express the opinion that still further consideration should be given to the physiology and pathology of the animals of the farm other than the horse, as in the near future the veterinary surgeon will have to pay greater attention to farm animals than he has in the past quarter of a century.

We read in the daily press that the Government are going to grant £50,000 for agricultural research, which is to embrace vegetable and animal physiology and pathology, and hope some of the younger, more ambitious, and talented members of the profession will qualify themselves in order to benefit themselves and the public by this grant; if they fail, probably doctors of science or medical men will get the positions.

Every practitioner in country districts has the opportunity to make observations during the life of his patients and often after its death. But how many devote any time to make them. The last 25 years very little study has been devoted to cattle beyond their contagious diseases; at least our journals are lacking in such observations.

I believe it was a mistake to amalgamate the teaching of pathology and therapeutics of cattle with that of the horse and dog, as was done in this country a few years ago. In many of the Continental schools, notably those in France, the Chair of Cattle Pathology is still kept distinct from that of Equine and Canine Pathology, and with very good results.

But I have gone astray from the path I intended when I took up my pen, and that was to ask Mr. Hoare a few questions, which I hope he will endeavour to answer to the best of his ability.

1. Is the ingesta in the omasum always dry and in leaves, and does the mucous, epithelial, or papillary membrane always peel off easily after destruction of a healthy animal?

2. What is the difference between the condition of the omasum and its contents during health and that of the so-called impaction from disease?

In other words, do veterinary surgeons often make observations after death of a healthy animal and compare the conditions with those found after death in a diseased animal?—Yours truly,

ENQUIRER.

PROFESSIONAL FEES AND THE R.V.C.

Sir,

In the interesting if somewhat abusive correspondence now taking place in your valuable journal, I notice that Mr. F. O. Parsons alludes to the charge of the R.V.C. for the keep and treatment of a dog, which is 5/- per week, or about half or one-third that usually obtained by the majority of practitioners in and around London and other parts.

According to the last report of this institution issued to subscribers I glean that after receiving £1,000 from the Government and £300 from the Royal Agricultural Society the College only just managed to show a small balance, and which goes to indicate that without these two grants the Royal Veterinary College would soon cease to exist. So much for the business side of the College.

As a large taxpayer for my position in life, I have to contribute to this grant obtained from the Government, so I think it is unfair that the College should too keenly compete with me. But on the other hand, the College is largely kept going by the present students, the majority of whom will one day obtain their diplomas, and many of them will then find the ground cut from under their feet by the very institution they assisted, and will have to assist, to keep on its legs.

Is this just or equitable?—Yours faithfully,

HENRY GRAY.

PROFESSIONAL FEES.

Sir,

Having followed the recent correspondence relating to professional (I feel almost inclined to insert, like Mr. Parsons, a note of interrogation here) fees, for attendance on dogs and cats, it has occurred to me to wonder what men belonging to other professions must think of us should they have had the opportunity to pursue *The Record*.

To attempt to arrive at a "reasonable" or "just" fee for "all and sundry" who profess to dabble in this branch of veterinary science appears to me like putting a market value on our services, to the ultimate total extinction of the professional element. As it is this exists unfortunately in name only among many practitioners, while others find it necessary to point it out to would-be clients on a board, the size of which would shame a music-hall advertisement contractor.

Does anyone know of a profession in which the members all charge alike? Do barristers, doctors, dentists, etc. fill up the correspondence columns of their professional journals in bickering over fees? I think not. But probably the more fortunate ones feel, as we should, sorry for those who are forced to accept little fees because they cannot—often for reasons better not inquired into—obtain larger ones. I have known doctors who have to be content with the magnanimous fee of 1/6 for advice and medicine, while others in the same town have no difficulty in obtaining 7/6 or even 10/6; also dental surgeons who cannot ask more than 1/- for extracting a tooth, yet their neighbour's minimum fee is 5/-.

And so with veterinary surgeons, whose fees must always vary with the reputation, capabilities, and personality of the practitioner and with the establishment he keeps.

I have seen so-called infirmaries and boarding-kennels the quintessence of filth and discomfort; the food on which the poor inmates are fed being on a par with the surroundings, and others which, comparatively speaking, are equal in comfort and cleanliness to an ordinary hospital ward.

Your correspondent "Rusticus" would like to know the actual cost per week to the practitioner for keeping a dog or cat. Surely this must depend upon what they are fed on, and in the case of dogs, whose size varies so much, the quantity of food must be taken into consideration. If the animal is ill, in certain cases, to feed it properly expensive foods such as Brand's essence, Valentine's, etc., must be given, and it is quite impossible to buy these when one only charges 5/- per week—four tins of Brand's alone will cost this—hence the animal first has to suffer, the owner next through loss of his or her pet, and ultimately the practitioner through loss of reputation.

I used to know a suburban veterinary practitioner whose unvarying charge for boarding was 3/6 per week for cats and 5/- for dogs (any size), and with treatment 5/- and 7/6 respectively. Now his boarding charges might be considered fair for cats and small dogs in that district, but the additional 1/6 and 2/6 for treatment (including operations—such as they were) would appear at first sight ludicrous, but for the fact that it happened to be the kennel boy who carried out the treatment (the butchery part excepted), and I believe this to be

the case in many instances of cheap practice. It is difficult to understand why veterinary surgeons in good class neighbourhoods do take in dogs and cats at such low figures unless it is for the above reason, viz., that any yard boy or man, however ignorant, can give "sufficient attention" to these animals, in the practitioner's estimation, while he himself devotes his time and brains in attending the larger ones.

Mr. Parsons suggests that "many of us do not know what to charge," should it not be that "many of us do not know *how* to charge" for attendance on dogs and cats? The average V.S. has, for so long a time, been in the habit of treating and obtaining fees for animals whose *commercial value* comes uppermost, that he cannot readily adapt himself to a class of practice in which *sentiment* plays by far the more important part. Personally, I find people will pay as much, and often a great deal more, for attendance on their pets than the average horse-owner will for a horse.

"Rusticus" mentions a "prominent" firm in the West End who, according to one correspondent, charges 4/6 or 5/- per week for keep and treatment of a cat. I do not know this firm, but as I get a considerable number of cases from that wealthy part of London, I hope that this "firm" will not raise its fees, for I have found that cheap practitioners and dogs' homes indirectly contribute largely to my income.—Yours, etc.,

J. McRAE FROST.

Wimbledon, Aug. 28.

Sir,

I am sorry "Rusticus," who tells us he is "a mere rural person," has not a logical mind to put into practice his injunction that this discussion should be conducted civilly and reasonably and not allowed to degenerate into abuse. I advise him to pluck the mote out of his own eye before he performs on mine. He appears to me to have lost his head and become quite fanatical. Probably he is, as his pseudonym suggests, a rustic by origin, and therefore, as his actions show, by spirit. If so, I can forgive him for his attitude—that of a very narrow-minded, unchivalrous, vindictive person, who readily jumps to conclusions, imputes evil motives, and speaks contemptuously of a great number of his *confrères* whom he considers extortioners and inhuman, and unworthy of the confidence reposed in them by their employers. He sneers at a branch of their legitimate work as if it was beneath his notice, but forgets 'Tis a dirty bird that fouls its own nest.

As to the firm, or a member of the firm he champions, how should I know to whom he refers, since there are so many estimable ones in London who, I believe, have done yeoman service to their employers, to the profession and to themselves, and have carried on their infirmaries and practices hygienically, and who generally charge "live and let live" fees commensurate with the skill, care, expense, and attention bestowed on the patients entrusted to their keeping; and the questionable establishments and the condition of their inmates of which he speaks libellously and with pretended great authority I have not yet encountered them. I will, however, say this, that in all those veterinary establishments I have been into the last thirty-five years I have in every instance found the animals to have been kept in a far more sanitary state and fed much better than a great number of people, including unfortunately a few veterinary surgeons, who have been compelled by dire necessity to live in a dingy, dirty, squalid room or surroundings and from hand to mouth, and sometimes scarcely that.

"Rusticus" is so ignorant as to believe his *confrères* are so ignorant as to neglect their own interests by not humanely and hygienically treating their patients. His idea is to level down fees; my object is to raise them up, at least to the level of obscure but nevertheless worthy suburban practitioners, who evidently from report charge more than the firm he so indiscreetly champions and holds up as a model to be imitated by his *confrères* whom he malevolently abuses and libels.

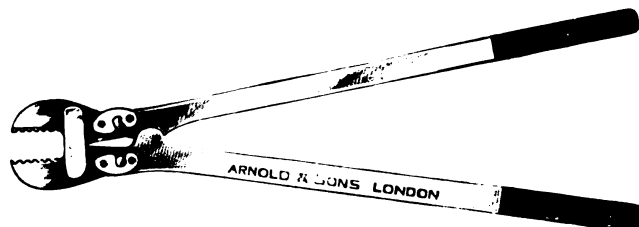
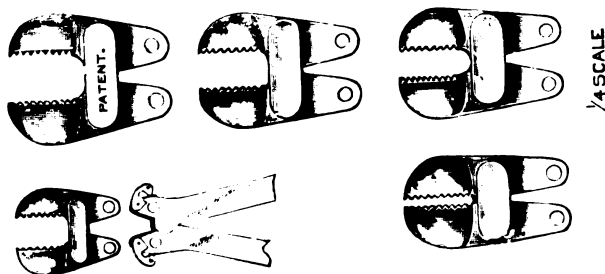
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(This correspondence may now cease.—ED.)

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SESSION 1911-12.

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on Monday, October 2nd,**

When the Chair will be taken by
LEONARD BRASSEY, Esq., M.P., and the
INTRODUCTORY ADDRESS delivered by
STEWART STOCKMAN, Esq., M.R.C.V.S.,
Chief Veterinary Officer to the Board of
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An Examination in General Knowledge will
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September.

The College Calendar, with full particulars
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RICHARD A. N. POWYS, Secretary.
July, 1911.

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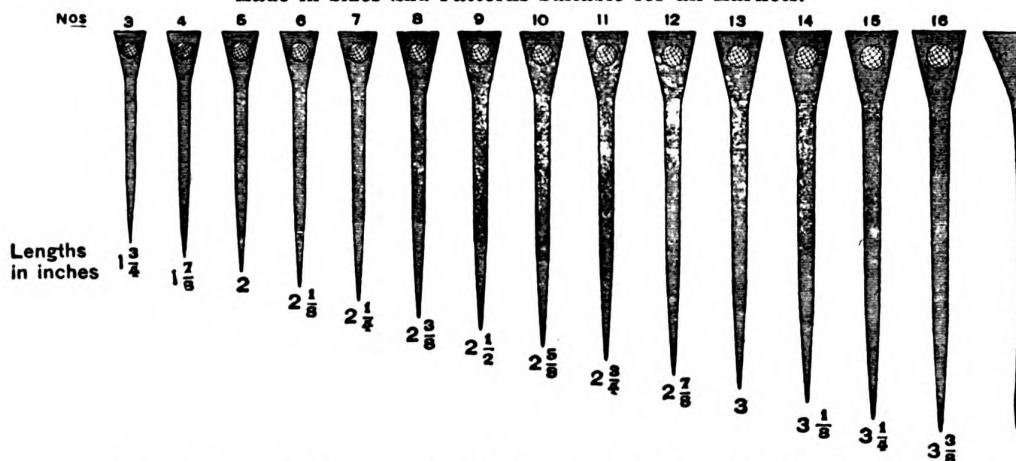
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T. S. COBBOLD, M.D.

The recently issued monumental final report of the Committee of Inquiry on Grouse Disease will draw some attention to the memory of that sterling worker, Cobbold. Many years ago Cobbold indicated a nematode as the cause of the well-known epidemic grouse disease. This was denied by Klein, who attributed the affection to a colon bacillus. The present Committee, in its exhaustive enquiry, found that Klein had made the error commoner in those days than now, and largely explicable by the circumstances—of mistaking a putrefactive for a pathogenic organism. This point settled, undivided attention was focussed upon Cobbold's theory, and the accumulation of evidence gradually verified it. The *Trychostrongylus pergracilis* (Cobbold) may now be accepted as the cause of epidemic grouse disease, with the proviso that, like many other helminths, it appears to be harmful only when present in excessive numbers.

Cobbold died twenty-five years ago; but the value of his work is only now beginning to be fully appreciated. Every year, however, makes it more apparent. During his lifetime, of course, he was recognised as a great helminthologist—he was one of the few in this country to gain a permanent European reputation in the speciality; but in addition, so far as this country at least is concerned, he was the pioneer of parasitology, constantly pressing its claims to consideration at a time when pathologists in general seemed curiously unable to realise its importance. That time has passed away, and parasitology is now recognised as one of the most important of medical studies. Cobbold, more than any other Englishman of his time, paved the way for that recognition.

So far, the medical and veterinary professions owe a common debt of gratitude to Cobbold. The veterinary profession has additional and special cause to remember him kindly. Many old students of Camden Town still remember the value of his tutorial work on its staff. His strictly scientific work at the School is common property to helminthologists; for much of Cobbold's best original work lay in the veterinary half of his speciality, and a great deal of this was done at Camden Town.

When, a few years ago, a series of boxes at the London School were renovated and inscribed with the names of past veterinary worthies, we regretted that Cobbold's name was not perpetuated. It could easily have been done, and could be yet, by a combination of his old students. He did such yeoman service in a most important branch of comparative medicine that his long and close connection with the veterinary profession should not remain unrecognised.

IMPACTION OF THE OMASUM.

By HUGH BEGG, M.R.C.V.S., Hamilton.

One cannot help admiring the frankness of Mr. Hoare's appeal to his professional brethren for information relative to some of the obscure problems that attach to gastric derangements of the ox.

As the prospective author of a new text-book on Veterinary Medicine, it is gratifying to know that, in the preparation of his volumes Mr. Hoare is not content when he reaches a baffling obstacle simply to plagiarize the books of other authors (home and foreign) or to repeat their plagiarisms, and by mixing a little Irish spice to the old pabulum, hand it over to his readers as original matter. I think his attitude augurs well for what we may expect to find between the covers of his treatise.

No living veterinarian is capable of writing with a master hand on every phase of veterinary medicine, and probably ten men could be found who could write convincingly on equine digestive troubles for every one who would venture to tackle in an original way the similar diseases of bovines.

Before giving my humble opinion on Mr. Hoare's first query: "Does impaction of the omasum occur as a disease *per se*," I would ask: What are we to understand by impaction of the omasum?

I suppose we all believe that the contents of the omasum are always, in health, stored between its leaves in a drier state than are the contents of any other viscus in any of our ordinary patients, but, has any one ever seen the 3rd stomach of the ox distended to two or three times its normal size with dry food?

We often meet with enormous impaction of the rumen in the cow, extreme distention of the stomach of the recently weaned foal with indigestible grass, and every equine practitioner is aware of the extent to which dry impaction of the colon occasionally obtains in the horse, but, though the manyplies may, and does, vary in size, I cannot say I have ever seen it much increased in its dimensions or impacted in the sense that the rumen of the ox, the stomach of the foal or the colon of the horse very often are.

My experience among Ayrshire dairy cows compels me to give an emphatic negative to this query.

Twenty years ago in the district in which I practised 50 per cent. of all the digestive troubles of the milch cow were considered cases of "Fardle bound," and permanent pastures rich in Timothy grass were considered a potent cause of the disease.

Without hesitation I can affirm that scores of dairy cows at that time were sacrificed by stock-

owners and veterinarians alike to the wholesale use of Epsom salts and treacle.

The history of the cases was as follows:—Early symptoms, refusal of food, decrease of milk, general depression and disinclination to move, with perhaps a degree of tenseness of the abdomen, irregular temperature of horns and ears, shallow breathing, expiration sometimes accompanied by a moan or grunt more or less audible, and if present more manifest when recumbent, fæces scanty and it may be constipated, though often normal at first in consistence.

The invariable first dose given was 1lb or more of Epsom salts and 3lb or so of treacle, and, when this was accompanied by the intelligent application of comfortable, well secured clothing, and the medicine, instead of purging quickly and copiously, acted as an aperient, the animal was often well on the way to recovery within 36 hours, normal peristalsis having been restored. But if the saline purge produced forcible and repeated watery evacuations, or, having hung fire, was followed by another, dose producing the impatiently wished-for result and particularly if the cow was inadequately clothed while undergoing the storm and loss of heat that accompanies copious watery evacuations, the latter state of the patient was found to be worse than the first.

The excessive activity of the bowels was followed by a degree of paresis resulting in the absence of fæces for a period. This, or the appearance of a little dry fæces (dry, because it had given up its water during a long and slow travel over an absorbing surface) was, at once alike the clue that the third stomach was blocked, and the excuse for giving another and probably larger dose of physic.

The devotees of this cult have been known to repeat the experiment for seven times before the animal succumbed, and though sad experience might have led them to doubt their tenets—you would find them at the post-mortem, pointing with pride to the third stomach which would turn up firm in consistence every time, and was held to justify (?) their shrewd diagnosis and treatment and illustrate the need for more heroic doses in the next case.

What were the other lesions that were ignored? Simply the toxicological lesions of Epsom salts and treacle, an outraged digestive canal—gastro-enteritis—the chocolate-coloured contents of the abomasum and bowels being plentifully mixed with blood clots, and we have frequently seen a portion of the bowel sauged with blood.

That the omasum was found to be as firm or firmer in consistence than the same organ from a newly killed fat bullock (and we have seen many such that were difficult to pit with the toe of a boot) was but the natural result of its proximity to the intensely inflamed and sensitive abomasum.

The slight red staining of the contents and the free edge of the leaves of the omasum occasionally seen is invariably due to the backwash of the abomasal contents through the somewhat large and patent opening that connects the two compartments.

Many and varied are the diseased conditions which give rise to the common train of symptoms already referred to that were and are still considered pathognomonic of murrain and no hurried examination is sufficient to form a diagnosis and suggest proper treatment for the oppressed cow with a grunt. We have to be painstaking and deliberate in making deductions, if we would avoid the pitfalls of improper treatment, and particularly the blind use of purgatives.

The patients most commonly martyred by the action of purgative medicine have been those suffering from

1. Pleurisy affecting those parts of the pleura that are difficult or impossible to examine by auscultation.

2. Traumatic pericarditis in the early stage before hydrops pericardii has begun.

3. The presence of a foreign body at any part of its transit from the thorax into the second stomach.

4. Hepatitis, hepatic abscesses, etc.

5. Peritonitis, local or generalised.

I am convinced that local peritonitis immediately behind the lower third of the diaphragm (non-traumatic) is a very common lesion in thin milch cows. Witness the large number of carcasses of old cows that exhibit the lesions of peritonitis (apparently non-tubercular) at this site.

The complaint is commonly met with at those seasons when the nights are chilly and wet, or frosty, and the dairy cows are out in the fields.

I am of opinion that senile animals deficient in fat contract peritonitis by a simple and complete chilling of the abdominal wall and the surface of the adjacent organs through prolonged contact with the cold earth. This happens all the more readily if the cow has been heated on the way to the field, and being tired she spends more time than usual in the recumbent position.

6. Congestion or inflammation of the abomasum.

7. The early stage of serious disturbance in the pregnant womb.

THE ETIOLOGY OF GASTRITIS.

I feel sure that the great majority of the cases of abomasitis which I have encountered before and verified by examination after death, have been directly caused or aggravated by the inordinate use of purgative medicine.

But we have often met with cases of a typhoid nature caused by ptomaine poisoning from the use of decomposing roots, in which the symptoms were sudden and grave, accompanied by high fever, and occasionally cerebral disturbance, the animal collapsing in two or three days.

In such cases the most constant visceral lesion revealed on post-mortem examination is gastritis, with hæmorrhages in the intestinal mucous membrane.

Again, it has been my experience that next to the peritoneum the sensitive abomasum is more liable to vascular changes from a serious chill than any other abdominal organ, and, under the influence and predisposition of certain digestive derangements—simple in themselves—abomasitis does

readily take precedence of peritonitis when the system has sustained a shock from undue exposure.

Further, we know that cows feed so grossly when free in the fields that they very often swallow acrid and poisonous vegetable, and even mineral substances, to which they have access, and though the rougher particles are so policed by the other compartments that they do not readily reach the abomasum, irritant solutions and juices soon reach the delicate mucous membrane of the true digestive stomach and kindle a fire there.

Sad experience has also led me rightly or wrongly to suspect that a sudden departure from a well balanced food to one on which the nitrogenous ratio is greatly increased, has been on several occasions the immediate or exciting cause of a series of fatalities in dairy herds.

Three years ago, in a herd of thirty dairy cows, the supply of turnips gave out, and because an order for bran had failed to arrive, the owner, to keep up the milk supply, increased the amount of soya meal from 4 to 8 lbs. per head. On the 3rd day three cows became seriously ill, I was called in and though the feeding was at once changed, other four cows sickened.

In five of the cases the illness was ushered in with violent rigors, the thermometer registering from four to five degrees of fever, complete suppression of milk secretion, diarrhoea bordering on dysentery, occasional colicky pains, restlessness and great depression. Each of these animals succumbed within three days, and the post-mortem lesions simulated those of a septicæmia, abomasitis being constantly present.

Smears made from ear blood were entirely negative, while those made from the lesions soon after death, revealed the ordinary putrefactive anaerobes that abound in the blood of a decomposing carcase.

The illness of the other two cows was epileptiform, one made a fair recovery and the other had to be destroyed on account of traumatic pneumonia.

For obvious reasons, everything humanly possible was done to solve the mysterious etiology of this outbreak, but the investigations of the chemist and the bacteriologist and the kindly help of the Board of Agriculture were alike unavailing.

In the year that the different grades of soya meal were first introduced as substitutes for bean and pea meals, I encountered in various herds similar single cases that baffled treatment, and though suggestive of anthrax, were invariably negative.

Bean straw as a fodder for cows is eminently dangerous, and if given in quantity causes acute gastric derangement with the usual accompanying disturbance of the nerve centres, many of the sleepy, paralytic, almost comatose patients becoming absolutely mad before death.

Finally, trouble in the abomasum is always to be expected and anticipated when an animal has swallowed a quantity of material that is known to be poisonously irritant.

In question (3) Mr. Hoare asks how, in a case of impaction of the rumen, the material is disposed of under the influence of purgatives, and he concludes

by saying that if the medicine enters the rumen and reticulum first, it is not easy to explain how beneficial results are produced.

I am not sure that it would be fair to conclude that he is inclined to believe, as many do, that the contents of the rumen and reticulum never reach the abomasum etc. except *via* the mouth through the act of rumination.

That this is true of the grosser particles goes without saying, but it would be difficult to convince me that no liquids emerge from these compartments and reach the true digestive apparatus while the food is being churned and macerated by the powerful walls of the rumen. If I am wrong, will some one explain the following facts?

Years ago, when the prevention of milk fever appealed to us more than it does in these days of our emancipation by the great Schmidt, my favourite prescription was chiefly composed of 6 or 7 oz. of common salt and about 80 grs. of gamboge. I have repeatedly seen this drench given to a cow due to calve while she was in the act of chewing the cud. The immediate result of this interference was the suspension of rumination. With very few exceptions, the dose produced in six or seven hours copious watery evacuations, in the absence of any resumption of rumination.

Now, if liquid medicine measuring from 1½ to 2 pints enters only the rumen and reticulum, which seems proven, and if no assimilation is possible in these compartments, how are the facts which I have stated to be explained away except by a belief in the direct passage of fluid pabulum from these stomachs to the true digestive apparatus?

Further, I have often seen a considerable reduction in the size of an enlarged and firm rumen under the influence of purgative and nerve-stimulating medicine, though meanwhile the animal was never known to ruminate, while the droppings almost invariably contained gross material that had escaped the gauntlet of digestion.

I conclude that in those cases which die the "atony" of the ruminal walls has been so complete that we have failed to establish either the upward act of rumination or the onward movement of fluid pabulum to which I have referred. And I am of opinion that while the specific and more manifest action of these hydragogue purgatives is predilected to the true digestive organs, the medicine very often exerts an accelerating effect on the walls of the rumen through the vagus nerve which is the augmentor of that organ.

In question (4) Mr. Hoare says he has failed to find in all the text-books the slightest reference to "spewing of the cud."

I don't often consult Gresswell except in my lighter moods, but if Mr. Hoare looks up that author's "Diseases and Disorders of the Ox," p. 504-5 he will find some remarks on "Dropping of the Cud," and a fairly good illustration of a suffering cow. This author refers to the disorder as "simple indigestion."

I cannot subscribe to this view, as many of the cases I have witnessed were both serious and protracted. I do not know that we need differentiate, except in degree, between the occasional dropping

of portions of the bolus sent up during rumination, and a well established emesis. I take it that both extremes and all intervening degrees of spewing are dependent on somewhat similar though often obscure causes, and the quantity of food lost is small or great in proportion to the excitement of the rumen.

We know that under the influence of certain reflex stimuli, the contractions of the rumen are very great and often repeated. Observe a choking cow with the offending root lodged in the upper portion of the oesophagus. Reflex messages from the seat of choking set the rumen in active motion and repeated, almost rythmical waves of fluid are sent from that organ distending the gullet as far up as the obstruction to a degree far exceeding the dilation that obtains in ordinary deglutition, while a similar nervous phenomenon stimulates the salivary glands to great activity, so that below and above the obstacle is beset with tides of fluid intended to assist in its dislodgment. Even when not distressed in breathing by tympany, the choked cow is always more or less topsy turvy and nauseated, not from pain suffered in the gullet, but owing to the restless state of the rumen and its contents—an involuntary state of affairs.

Some of the most miserable and repulsive patients I have attended, were those cases of chronic emesis and cud-dropping, which suffered according as they ate, were happiest when hungry, and which revealed on post-mortem diseased conditions of the oesophagus itself or malignant growths involving or unduly pressing on some part of that organ.

That the seat of origin of the reflex act may, in many cases, be elsewhere than in the oesophagus I am convinced, but when Emesis is due to the baneful effects in the stomach of diseased, poisonous, or irritant indigestible food, it is usually sudden, complete and salutary.

The prognosis can never be favourable when "dropping of the cud," at first but little marked, gradually increases over a period of weeks, while the animal rapidly loses flesh, but I have known one such case make a sudden and unexpected recovery as if the bursting of an abscess had terminated the cause of disturbance.

Then we have occasionally seen a cow in perfect health when quietly chewing the cud throw up, for once only, such a mouthful that the buccal cavity could not retain it, and the liquid portion was sent awash over her lips to the ground while the animal, unheeding, continued perfect rumination, delivering upwards of sixty cuts to each bolus.

Beyond saying that this was due to some erratic stimulus to the rumen, need we theorize further? As well might we try to explain the conditions that cause a man, in due sobriety, to bite his own tongue when masticating his food.

We have also to recollect that cows occasionally "quid" food, as the horse does, when suffering from pain during mastication. Though "caries of the molar teeth" is a very uncommon condition in the ox, we occasionally meet with cases in which the teeth loosen and fall out owing to malignant disease of the alveoli. Such cases make a bad job

of chewing either food or the cud, and the animal that has had the misfortune to wedge an unyielding foreign substance between her teeth and the cheek is in similar predicament. Certain "actinomycotic" conditions of the buccal cavity are also accompanied by quidding.

A CASE OF SUB-LUMBAR ABSCESS.

On Thursday, August 24th, I was shown a grey horse lying in a stable on its right side. It was said to be unable to rise, and when encouraged to do so made no effort to use the hind extremities. I was told that when it first lay down it kicked and struggled for some time, but offered no assistance to men's attempts to help it up.

My attention was drawn to two small round openings on the under surface of the tail—one quite on the firm part of the tail, the other close to the softer perineal tissues. A probe suggested they were superficial abscesses, but as one gave exit to a lot of thick creamy pus when pressed, I enlarged it and with my finger sought for any sinus. I could find none, so concluded that these were merely superficial abscesses unconnected with the inability to rise.

With the aid of slings we got the horse up and he stood well. The pulse and respirations were soon normal, and he was left eating hay. Temperature not taken.

The history of the case was that the horse had been away on military manoeuvres and had returned very much out of condition. He went away on August 13th and did four days work without attracting any notice. Then an abscess on the root of the tail was discovered. It was opened, and to guard against infection from possible strangles the horse was isolated. He returned to London on August 20th and seemed well. On the 23rd a second abscess burst on the right side of the tail, above the anus. This was about the size of a crown piece. The pus which escaped was thick, white and creamy.

As I have said, I thought the abscesses were only superficial, and did not connect them with the inability of the hind quarters. At 6 p.m. the horse was standing quietly in the slings. At 5 next morning he hung in the slings so limp and powerless that the man in charge let him down. He lay quiet and died in about an hour.

Post-mortem.—The abdominal viscera were removed and showed no disease. The left kidney seemed very large, and it was removed with all its surrounding tissues—psoas muscles, etc. This mass was then cut into, and the kidney found apparently healthy. Behind the kidney and over the psoas muscle was a large abscess, the contents being white and almost caseous—in quantity about a quart. Further examination showed a sinus containing, here and there, similar pus. This sinus ran along the upper surface of the pelvis and was connected with the abscess at the root of the tail.

The lungs were not diseased, and unfortunately the heart was not examined.

The case is not one I am proud of, but I report it for the benefit of others. Possibly had I taken the temperature I might have found it high enough to suggest some septic change.

I am still puzzled as to the immediate cause of death, because the abscess must have been in about the same condition when the horse died as when the first appearance of pus under the tail was discovered.

I ought to add that neither the kidney, the psoas muscles, nor the spine seemed affected. The horse had been submitted to infection of strangles so far as occupying a stable in which cases had occurred before he went on the manœuvres.

W. H.

RADIOTHERAPY.

The few remarks which follow are of a wholly theoretical and speculative nature, one may therefore be pardoned, perhaps, for having adopted a somewhat hypothetical title.

Speculation and pure theory are of course considered directly opposed to practical efficiency by a section of our professional community, and those who hold these views will do well to skip this article. It seems a pity that the question of Theory *versus* Practice should ever have arisen, as they are essentially complementary, and their combination in one individual should be the ideal of professional excellence. It is conceivable that, satiated for the moment with the substantial diet of practical work, one might in a season of leisure allow the intellectual faculties full sway to wander into realms of pure speculation.

The discovery of radio-activity is no new thing, but it is only recently that the indefatigable researches of scientists have brought it into the sphere of practical politics. The nature of Radium, the method of isolating it, and the phenomena by which it is recognised, are widely known now, but for those who have not studied it a few prefatory remarks may be allowed.

Radio-active substances, as their name indicates, are chiefly characterised by the power they possess under certain conditions of emitting Rays for an indefinite period without undergoing appreciable loss of substance. These rays are capable of conducting electricity, and this is the phenomenon which has led to their discovery, and the possibility of isolating the substances that emit them. Many speculations have arisen as to the source of these rays, and it is of course open to everyone to make his own choice, but the most feasible idea, in my humble opinion, is that set forth by Dr. Gustave le Bon in his work on "The Evolution of Matter." He assumes that these rays are composed of matter in a transitional state, arising from the disassociation of atoms. He holds in short that the law of indestructibility of matter is an erroneous law and that the atom is capable of disassociation into the ether "from whence it came."

In the course of this disassociation an immense, almost incalculable, amount of kinetic energy is

liberated, producing a force able to drive the particles in the form of rays through material substances. Radium is not the only substance that has the power of emitting these rays; it is now known that many substances have the same power to a modified extent. Le Bon has shown that during a *chemical reaction* rays are emitted. The practical method of demonstrating the existence of these rays is to place the substance to be tested in such a position that the rays can fall on a charged electroscope. A description of the technical details of the experiments would be tedious and out of place in this brief article.

Should the substance prove radio-active a discharge of the electroscope occurs along the line of emanation. In this way radium is obtained. By an intricate process of re-crystallisation, etc., from an admixture of radio-active substances, a residuum is at last procured with a maximum power of emitting rays conductive of electricity. With these preliminary remarks one may pass to a consideration of the therapeutical possibilities of the utilization of this tremendous liberation of intra-atomic energy, as evidenced by the rays.

The first experiments known to me in Veterinary work have been directed to testing the effect of Radium enclosed in a tube, inserted in the frog for navicular disease, and buried in the tissues for the treatment of tumours.

The experiments as yet have been too few for satisfactory conclusions to be drawn. The theory, in the consideration of which I would crave your indulgence, is based upon the possible influence that radio activity, or liberation of intra-atomic energy, may have in the therapeutic action of certain "specific" drugs. The number of accepted specifics is small, but their existence is undisputed. Potassium iodide in the treatment of actino-mycosis may be taken as a good concrete instance. The action of this drug is inexplicable by any hitherto adduced hypothesis. One speaks vaguely of "double decomposition," but it amounts to nothing as an explanation. May it not be possible that a chemical reaction with certain elements of the diseased tissue of micro-organisms occurs, leading to the liberation of intra-atomic energy and in some obscure way to destruction of the diseased tissue and the micro-organisms simultaneously? This theory would help to explain the enormous effect of such a small dose of the drug. When one considers the dilution that must take place, and the infinitesimal amount of the drug that is eventually determined to the diseased area, it is helpful to remember that a liberation of intra-atomic energy may multiply the power almost indefinitely.

As Gustave le Bon states, the intra-atomic energy contained in such a relatively small compass as an ordinary penny would, if the means were discovered to suddenly liberate it, annihilate the experimenter and level all the buildings in the vicinity to the ground. Without necessarily accepting these calculations, although those of a scientist of European reputation, it is indisputable that the potential energy resulting from disassociation of the atom is almost incomprehensibly great.

It is superfluous to multiply instances of specifics. The single one given is sufficient for the purposes of this theory. The factors necessary before a specific effect can be obtained are, the affinity of a certain drug for certain tissues or micro-organisms, chemical reaction, and the consequent liberation of intra-atomic energy (?) One might dilate much upon this point, but enough has been said to demonstrate a possible explanation of the action of "specifics."

It should not be supposed that it is intended to claim the agency of this factor in the action of drugs generally. Like Mr. Wallis Hoare, I am, on the whole, sceptical as to the alleged utility of the majority of drugs. To my mind the average textbook on therapeutics is a touching illustration of the credulity and simple faith of mankind. It is only with regard to certain drugs of specific action for certain diseases that the possible influence of intra-atomic energy is deserving of consideration. At present the chief physical evidence we have of the liberation of this force is that which takes the form of rays, but it is not, in my opinion, going too far to suppose that it is capable of being manifested by other forms, governed by laws as yet unknown to us. In this way it may play a prominent part in the action of those mysterious substances the organic ferments of nutrition, and nervous and muscular energy, and of other physiological phenomena hitherto inexplicable. The definition of a ferment, a substance causing chemical change without itself undergoing perceptible alteration, bears an analogy to radium that is significant enough to awaken interest in an enquiring mind.

WAKEFIELD RAINEY, Capt. A.V.C.

ABSTRACTS FROM FOREIGN JOURNALS.

ULCEROUS "LEG AND LIP DISEASE" OF SHEEP.

Melvin and Möller (*Revue Vétérinaire*) give an account of this disease. It has been studied successively by Gilruth, who called it Eczema of the face; then by Clayton, who discovered its microbial nature; and afterwards by M'Fadyean, Williams, Moussu, Benoist, Cadéac, Leclainche, and Vallée, Knowles, Law, and Wing and Flock, who described the venereal form for the first time.

The lesions may appear upon every part of the body, but the parts covered with wool are least exposed. Traumatism favours the appearance of the disease. Sometimes the affection is benign, and sometimes virulent; and several forms of it have been studied.

One form is localised to the lips and legs. It may be acute, with inflammation, ulceration, and necrosis: the bacillus of necrosis being found in the lesions. On the other hand it may be chronic, with stationary lesions and without tumefactions.

A second serious form—the so-called venereal form—is localised to the prepuce in the male, and in the female to the vulva, which is ulcerated and presents a muco-purulent discharge.

A third form, called "Red Foot," is localised to the feet, and especially to the heels and the interdigital space. The ulcerous lesions extend to the sub-ungual tissue and give rise to an infectious discharge.

A fourth form is observed in lambs and is situated upon the buccal mucous membrane, which shows small ulcers and fungoid elevations of a cheese-like odour.

The disease results from the introduction of the necrosis bacillus into the organism by means of traumatism. The bacillus is widely distributed in nature, but it only penetrates the organism by means of a wound. When established in the organism, it secretes toxins which are necrosing in their action and which may affect every tissue.

The bacillus may affect other species of animals than sheep, causing serious lesions; and prophylaxis should therefore be extended to all species. The infection is spread by litter.

Prophylactic measures should of course be adopted, viz., separation of the affected from the healthy animals, careful examination of animals which have been exposed to the chance of infection, and complete disinfection of the sheds and sheep pens.

The curative treatment is based upon disinfectant lines. The diseased surfaces are cleansed; and the ulcers, in mild cases, are treated with an emollient of cresol 5 parts, sulphur 10 parts, and vaseline 100 parts, and, in serious cases, with more active agents—10 per cent. chloride of zinc or 1 part in 7 of nitric acid. In the venereal form of the affection, the ulcers are cleansed and cauterised, and this is followed by injections of permanganate of potash, 1 in 500. Buccal lesions are washed with a solution of 2 per cent. of potash chlorate, or one of 1 per cent. creolin.

In Germany, a simultaneous internal treatment is also recommended, creosote being given in cod liver oil.—(*Annales de Méd. Vét.*)

[I think that there have been instances of this affection having been mistaken for foot-and-mouth disease.—TRANSL.]

SECONDARY CEREBRAL LOCALISATION OF POLYPI IN THE VAGINA.

Jouglar records (*Revue Vétérinaire*) a case of a spaniel bitch affected with numerous polypi, some pedunculated, in the vagina. These were operated upon by excision and curettage. Ten days later, the operation was to be repeated, when the condition of the animal arrested attention. She was somnolent, showed cutaneous hyperæsthesia, and moved towards the left. The eyes were wild, the pupils dilated, and the retino-papillary reflex suppressed. A digestive auto-intoxication due to obstinate constipation was first suspected; but as the condition persisted despite treatment appropriate to this diagnosis, cerebral metastasis appeared probable.

Post-mortem (it is not stated whether the bitch died or was destroyed) the alimentary tract showed lesions of gastro-duodenitis. The viscera were free from metastases. The polypi in the vagina had

recurred. The left cerebral hemisphere was hyperæmic. A horizontal section of the brain passing above the optic layers revealed a neoplasm situated in front of the corpora quadrigemina and occupying the floor of the lateral ventricle.

The tumour had all the macroscopic characters of a vaginal polypus; it was fibro-lardaceous, vascular, and clearly encroached upon the nervous system. Microscopical examination showed the identity of vaginal tumours and cerebral neoplasm, both of which had the characters of lymphosarcomata.—(*Annales de Méd. Vét.*)

URINE TESTING IN THE DIAGNOSIS OF FOREIGN BODIES IN THE BOVINE RETICULUM.

The diseases due to entrance of a foreign body into the reticulum are accompanied by more or less marked peritonitis, which in most cases determines the appearance of albumen in the urine. This has led Neidinger (*Oesterr. Wochens. für Tierheilk.*) to test the urine in 33 cases, all cows, using the nitric acid reaction. Upon post-mortem examination, the diagnosis was confirmed in 29 cases. In four cases a foreign body was present when albumen had not been found in the urine; but in these cases the section revealed only slight and dry peritonitic lesions upon the reticulum. Neidinger therefore holds that in cases where a foreign body in the reticulum is suspected, testing of the urine is of essential importance as a diagnostic measure.—(*Berliner Tier. Woch.*)

W. R. C.

BRACKEN-POISONING.

In the laboratory report for 1909, reference was made to an affection of cattle which it has been customary to attribute to poisoning by bracken. Feeding experiments were also carried out with large quantities of bracken taken from the pastures where the animals had been grazing. The results of these experiments, however, were negative, and no experimental proof of the bracken being poisonous was obtained. It was also pointed out that the symptoms and lesions of the affection, whatever it might be, were so constant that one was justified in concluding that they arose from the same cause in each case.

The symptoms and lesions, however, were not such as one would expect to arise from a poison; firstly, because the affected animals showed a very high temperature during life—106 to 107 F.; and secondly, because, although the intestine was the seat of the most marked changes, general lesions were found throughout the internal organs.

During the year under report, several outbreaks of the same illness have occurred, and the opportunity of further inquiring into the disease was taken, but, as previously pointed out, little progress can be made in any one year, as the illness seems only to occur during a short season.

A quantity of cut bracken was obtained from pastures in the North of England, where illness amongst the cattle was occurring.

The bracken was fed to heifer No. 249, but, in order to get the animal to consume it, it had to be mixed with a small proportion of cut grass and sharps. Between August 14th and 20th the animal consumed, approximately, 60lbs. of bracken. After the first two meals,

which together contained about 30lbs. of bracken, the heifer showed symptoms of indigestion, but apart from this no toxic symptoms were observed, and the temperature remained normal.

From the 20th August, that is when the heifer had consumed about 60lbs. of bracken, the latter was discontinued in the feed, and the animal was carefully observed during the week following; no symptoms of illness appeared.

In the course of another inquiry, the owner of the animals stated that he believed the disease was caused by a weed which he referred to as "Tormentil."

This weed was identified at Kew as *Potentilla Tormentilla*, Linn.

It is very widely distributed in Great Britain, and is usually looked upon as quite harmless. To obtain further information regarding its effect on animals, a quantity, amounting to about 3 lbs., was removed from pasture on which the disease had appeared, and it was fed to heifer 211 at the laboratory. Eight days after consuming the weed the temperature rose to 103 F., and for a further period of eight days it fluctuated between 102.8 and 104.2 F. Otherwise, however, the animal showed no signs of ill-health, and it was concluded that the feeding experiments had probably nothing to do with the rise of temperature.

A second outbreak of so-called bracken poisoning was reported from Buckinghamshire, and Mr. Jackson, one of the Board's Veterinary Inspectors, who made inquiries on the spot, observed that the same weed was very prevalent on the pastures, and decided to bring back a quantity for further experimental observation.

Between 4 and 5 lbs. of the weed was fed to heifer No. 188. On the evening of the third day, after the weed had been consumed, the temperature of this heifer rose to 106 F., and it fluctuated between 103 and 106 for three days. Coincidentally with the rise of temperature, the animal showed symptoms of decided illness. On the fifth day after feeding on the weed the heifer suffered from diarrhoea, and a considerable quantity of blood was passed in the faeces. The diarrhoea and evacuation of blood continued for three days, after which the animal appeared to be improving, and it was decided to kill her in order to observe whether the lesions attributed to bracken-poisoning were present. She was killed on the twelfth day after receiving the weed. Lesions identical to those found in connection with the outbreaks in the field were present in the intestine, but systemic lesions were absent.

The caecum showed a perfect network of black lines, due to hæmorrhage in the sub-mucous tissue, and a large area of the posterior bowel showed broad longitudinal hæmorrhages not unlike what one sees sometimes in cattle plague and East Coast fever. In the other parts of the bowel many small hæmorrhagic areas were found irregularly distributed. As these lesions were practically identical with those found in animals dying in the field from so-called bracken-poisoning, though they were somewhat less severe, and as they had occurred in an animal at the laboratory, where the disease was unknown, after feeding with the weed known as Tormentil, it was decided to obtain a further quantity from the same place for another experiment. It was arranged that freshly cut Tormentil from the same pasture should be sent to the laboratory daily for a few days. It should be noted here, however, that, whereas we were certain that the weed which was given to heifer 188 had been taken from the place where the sick animals were actually grazing, that sent up later was collected at various places where, possibly, the animals had not grazed when ill.

On September 6th, heifer No. 123 was fed with 4 lbs. of the weed, all of which was eaten. On September 7th, the temperature was normal, but the animal was very dull, and a small quantity of blood was passed with the

dung. On September 8th, 6 lbs. of Tormentil was fed, and on the 9th September the animal received a further quantity of 4½ lbs. The temperature remained normal, and the animal showed no signs of internal disturbance after that noted on September 7th. As no other animals were available for experiment at the time, the observations were not carried further, but it will probably be possible to continue them at a future date, when the disease appears again in the field.

In considering the observations which so far it has been possible to make, the following remarks on the nature of this apparently mysterious disease seem warrantable:—(a) that the high temperature, which accompanies the clinical symptoms, is contrary to what one finds in illness due to poisoning; (b) that the negative results of the experiments described in this report and in that of 1909, in which large quantities of bracken were fed to cattle at the laboratory, furnish a considerable amount of evidence against the opinion that the illness is due to poisoning by bracken; (c) that the fact that a case of the disease was produced in a heifer at the laboratory by feeding on material which contained no bracken, is further evidence against the latter substance being responsible for the illness; (d) that the positive result of the experiment on heifer No. 188 after feeding on Tormentil at the laboratory is by no means to be taken as proving that the illness originates from feeding on Tormentil, which is very widely distributed in this country, and is generally regarded as a harmless weed, especially as one must not neglect the possibility that the illness is due to some form of contagion, which may have been carried to the laboratory with the Tormentil from the pastures on which the sick animals were grazing.

WARBLES.

It has been possible during the year under report to make a number of observations in connection with warbles and the warble-fly. Through the kindness of J. Lindsay, Esq., National Federation of Meat Traders' Association, two cattle, which had been pastured in a warble-fly district during the fly season of the previous year, were sent to the laboratory for observation in April, 1910, that is to say, at the time warbles were distinctly apparent under their skins. The animals had been pastured on marshy land round about Dagenham in Essex. Unfortunately for our purpose, they were not very badly infested with warbles, but a sufficient number—about 20 in all—was obtained to enable some useful observations to be made. The animals were carefully examined from day to day, and as soon as the first nodules showed signs of bursting, the animals were tied up in pens in a glass-house, and visited about every hour during the daytime.

It is well known that flies seldom emerge from warbles which have been pressed out by force from under the skin. It has also been stated by several writers that it is very difficult to observe the warble making a spontaneous exit from the tumour, and to explain this it has been suggested that the exit is made during the night. The experience at this laboratory has been contrary to these statements. Tumours on the skin with gradually expanding orifices were marked, and carefully watched, and in no case was a warble known to make its exit during the night. On the contrary, it was found that exposure to the sun's rays seemed to favour the exit from beneath the skin. Sometimes a warble was ejected with considerable force, owing probably to sudden rupture of the attenuated, restraining, tissue at the surface of the nodule, and in one case the exit was accompanied by a report like that of a pop-gun. In the majority of cases, however, the warbles were observed to wriggle out of

the tumour, and even remain for a little time on the coat of the animal, when the immediate fall from the host's body was not too perpendicular. Once they gained the ground, they were observed to wander about slowly but continuously, until they found themselves in a shady place, when they curled up, and became quiescent. They could be made to curl up almost immediately after exit by covering them with a large pill box, and if they were exposed again to the sun's rays by removing the box before the outer surface of the pupa-case had hardened, they could be observed to start wandering again quite actively. So far as our observations go, the outer skin seems to become quite rigid in less than 24 hours after the warble has been placed in the shade.

The first warble was observed to make its exit on the 31st May, during sunny weather. The others continued to come out until the 12th June. Sixteen of these warbles were placed in a cool, shady room, in special cages made of mosquito netting, and a note was made against each of the date upon which it was obtained from the animal.

Flies were obtained from six of these—

No. of Warble.	Date obtained from host.	Date fly emerged.	Date fly died.
1	May 31	July 3	—
2	June 2	" 12	July 25
3	" 3	" 12	" 29
4	" 12	" 25	" 29
5	" 12	" 5	—
6	" 12	" 5	—

The dates on which flies Nos. 1, 5, and 6 died were not noted exactly, as they died in the same cage, and could not be identified. All three were dead, however, by July 19th.

When kept in a cool and shady room the flies crawled slowly about the cage, but they did not appear to be torpid. When the cages were taken out into the sunshine, however, the flies became very active, and flew about the cages making a loud buzzing sound. Three flies, believed to be one male and two females, were put in one cage, which was suspended in the sunshine. The flies were carefully watched, and attempts at copulation seemed to be made. No eggs, however, were produced, although the flies were given an opportunity to lay on the back of an ox.

Immediately after death the flies were sent to Mr. E. E. Austen, of the British Museum, South Kensington, who was good enough to identify them as *Hypoderma bovis*, Deg.: the species which is said to be least prevalent in this country. Two pupa-cases, which were obtained on the 10th June and from which flies had not emerged, were dissected on the 10th September. Only a dried mass, like solidified liquids, was found in the interior, and no appearance of any fly structure could be found in it.

The average period of time before these six flies emerged was 33·6 days; longest, 44 days; shortest, 23 days. Assuming that the three flies, the dates of whose deaths were not exactly noted (the three died within a couple of days of each other), lived until the 19th July; the average duration of life was 13 days; longest, 17 days; shortest, 4 days. The latter period, however, seems exceptionally short.—*Jour. Board of Agric.*

The beginning of the Barnet Fair, which holds this week, is unknown. Henry II. gave to the Monastery of St. Albans the right to hold a market at Barnet, from which time it has been known as Chipping Barnet, from Ceapon, a Saxon word signifying to buy and sell.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders				Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	(including Farcy)		Counties Affected	Animals Attacked	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported			Outbreaks	Animals.					
Gr. BRITAIN.													
Week ended Sept. 2	22		24				7	9			1	31	541
Corresponding week in	1910	20	21				3	13	Essex	1	4	29	146
	1909	18	34				9	17			1	23	206
	1908	16	18				21	41	London	7	1	19	417
Total for 35 weeks, 1911	583		728		8	425	132	312	Middlesex	1	307	1768	20798
Corresponding period in	1910	1000	1207		2	15	251	775			339	1000	8858
	1909	905	1211				375	1360			471	1249	10995
	1908	758	1013		3	112	566	1783			637	1471	8500

Board of Agriculture and Fisheries, Sept. 5, 1911.

Parasitic Mange (outbreaks)

IRELAND. Week ended Sept. 2	...	...	...	...	...	...	1	...	1	4	
Corresponding Week in {	1910 ...	...	...	...	...	...	2	1	...	...
	1909 ...	...	...	...	...	...	1	...	...	38	
	1908 ...	...	...	...	...	...	...	2	2	114	
Total for 35 weeks, 1911	...	7	14	...	...	2	3	52	253	91	1579
Corresponding period in {	1910 ...	5	8	...	...	1	2	54	349	71	1693
	1909 ...	5	5	...	...	...	...	64	305	82	1505
	1908 ...	6	9	...	...	...	...	31	274	132	2863

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 4, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

PTOMAININE POISONING.

By H. J. HUTCHENS, D.S.O., D.P.H. Oxon., M.A. Health Professor of Comparative Pathology and Bacteriology in the University of Durham.

Ptomaine poisoning is a popular rather than a scientific term used to describe an illness following, and attributable to, the consumption of a particular article of food. In nearly all cases the symptoms are of the nature of a gastro-enteritis, and it is further characteristic of the disease that by far the greater number of those who have partaken of the incriminated food suffer from the disease. The term ptomaine poisoning is inexact, because it leads by inference to the assumption that the symptoms are due to ptomaines, while in fact, as will be shown, these substances are not the cause of the disease. The word ptomaine (from the Greek, a corpse) was introduced by the Italian toxicologist Selmi to describe certain chemical substances more or less allied to the vegetable alkaloids which had been found in putrescent meat and decomposing albuminous matter.

BACTERIA AND PUTREFACTION.

In the earlier part of the last century, as the outcome of investigations by Panum and others, it had been shown that substances of a poisonous nature, chemically resembling the vegetable alkaloids, were present in decomposing animal matter, and these substances were later made the subject of an elaborate investigation by Selmi, and later still by Brieger and others. The result was that a number of definite chemical compounds, having many properties in common with one another, were isolated from decomposing flesh, etc. When the relation of bacteria to putrefaction had been proved by Pasteur it was recognised that these alkaloidal bodies were the

products of bacterial activity. And the further researches of Pasteur and Koch, which established the micro-organic nature of the infective diseases of man and the lower animals, gave a great stimulus to the investigation of the products of micro-organisms, because it very soon became evident that the infecting micro-organisms exerted their effects by means of chemical products elaborated by them in the medium in which they happened to be growing, whether that medium were the living body or an artificial culture medium. The truth of this view of the nature of the action of micro-organisms was proved in 1880, when Pasteur showed that by the inoculation of filtered, and therefore sterilised, cultures of the organism of fowl cholera he was able to reproduce the disease in susceptible animals just as though he had inoculated the living organisms.

VARIETIES OF PTOMAINES.

The detection of alkaloidal bodies in unsound meat led to the opinion that the symptoms following the consumption of such meat was directly due to them. This explains the origin of the expression ptomaine poisoning. As the result of the work of Selmi, Brieger, and later observers, a considerable knowledge of ptomaines has been acquired, and a large number have been isolated and their chemical composition determined. Vaughan gives a list of fifty-seven different ptomaines, the majority of which have received names indicating more or less, in most cases, the sources whence they were originally obtained. At first the ptomaines were regarded as characteristic products of the decomposition of animal matter, and the word itself would indicate that this was their origin. The majority of ptomaines have no doubt been obtained from putrescent meat or flesh, but they are also found under other con-

ditions. Muscarin, for instances, is the active principle of poisonous mushrooms, but has also been obtained from decomposing flesh.

WHAT IS A PTOMAINE?

A ptomaine may be defined as "an organic chemical compound, basic in character, and formed by the action of bacteria on nitrogenous matter" (Vaughan).

Ptomaines "are to be regarded as extracellular products of bacterial activity. They do not originate within the bacterial cell, and therefore are not to be looked upon as direct metabolic products of the cell protoplasm, but rather as secondary cleavage products." Many of the ptomaines belong to the benzene series and are derivatives of pyridine; others are hydro-carbon derivatives. Most of them, either in their chemical or physiological reactions resemble the vegetable alkaloids. "Some may be obtained from a variety of decomposing substances, irrespective of the type of organisms present." They cannot, therefore, be regarded as the specific products of bacteria. They are found in only very small amounts in decomposing animal matter, and it is only when meat is in so advanced a stage of decomposition as to be totally unfit for human food that they are present at all.

Moreover, many of the ptomaines are non-poisonous, and the majority of those that act as poisons exert their influence on the nervous system rather than on the alimentary system, which is further evidence against their being the cause of the symptoms of food-poisoning, since in the great majority of cases the latter are of the nature of a gastro-enteritis. (There is, of course, a definite class of epidemics of food-poisoning, in which the active substance is of the nature of a neuro-muscular poison. This, however, is not a ptomaine, and reference will again be made to this particular form of food-poisoning under the head of Botulism.)

FOOD POISONING.

On various grounds, therefore, ptomaines can no longer be considered to be the cause of food-poisoning. It would perhaps be exceeding the limits of what has been definitely established experimentally to say that ptomaines never cause symptoms of food-poisoning, but all the available evidence is against their playing any part in the production of those symptoms. The ptomaines have, therefore, largely lost their interest for the bacteriologist. But to the toxicologist they are of supreme importance, to which fact the recollection of a recent criminal trial will bear witness.

Food-poisoning is now attributed to the specific poisons of bacteria. Chemical investigation has shown the presence in culture media in which bacteria have been grown of numerous substances of a highly complex nature, ptomaines, tox-albumins, albumoses, etc., but all attempts so far to determine the nature of the specific bacterial poisons by chemical means have failed.

TOXINS.

The specific products to which the action of bacteria on the tissues is due are known by the generic name *toxin*. Toxins differ from all such substances as ptomaines, tox-albumins, etc., in that they are specific. They are "the result of synthetical processes occurring within the bacterial cell." Bacterial toxins are the most poisonous substances known. It has been shown, for instance, that 1 c.c. of a particular broth culture of tetanus contained 0.025 gramme of organic matter, and that that quantity contained sufficient toxin to kill 100,000 mice. Even assuming that the whole of the 0.025 gramme of organic matter was toxin, which of course it was not, the example serves to show the extremely poisonous nature of bacterial toxins.

It is to these toxins that the symptoms following the invasion of the body by bacteria are to be attributed. And when it was shown that food-poisoning could not

be regarded as a ptomaine effect it was thought that the symptoms must be due to bacterial toxins present in the meat. This is undoubtedly true in some cases. But Gärtner's observations during an epidemic of food-poisoning at Frankenhausen in 1888 showed that food-poisoning was at least sometimes an infective disease. And, as a matter of fact, in most cases food-poisoning is a specific infective disease, and is the result of poisoning by bacterial toxins. The toxins may be present in the food before it is eaten, or they may be elaborated in the human body. The former condition gives rise to a toxæmia while the latter is a true infection, resulting from the ingestion of organisms contained in the food which has been eaten. The latter condition is due to a small group of organisms known as the "enteritidis" or *Salmonella* group, the members of which are bacteriologically closely related to the typhoid and colon bacilli. It is possible that occasionally they gave rise to a toxæmia, but in the great majority of cases food-poisoning due to these organisms is an infective disease.

Food-poisoning is, therefore, the result of the action of the specific toxins of bacteria on persons who consume meat or other food infected with living organisms or their toxins, or both. The non-specific products should also, perhaps, be included; for though the evidence so far available is against the view that they take any part in the production of food-poisoning, it cannot be stated as a definitely ascertained fact that they never exert any influence. This definition at once excludes from the category of food-poisoning all cases of poisoning following the consumption of food containing arsenic, lead, strychnine, or other well-defined chemical substance, whether administered intentionally for criminal purposes or taken by accident. On the other hand, the generally accepted use of the term does not include such diseases as enteric fever, Malta fever, etc., though these are also the direct result of eating food specifically contaminated with the organisms of those diseases.

(To be continued)

On the Value of Combination.

In his address to the N.V.A. at Carnarvon, Mr. T. Salusbury Price, in commenting on the scheme for the affiliating of the veterinary societies, referred to the action of the British Medical Association in connection with the National Insurance Bill. The following extract from the address by the President B.M.A., Mr. Robert Saundby, carries the subject a little further.

"The National Insurance Bill is admittedly an adaptation of the German law of 1885, and a parliamentary paper has been circulated (Cd. 5679) containing the opinions of various authorities in Germany in support of the proposed legislation. With equal reason we may look to Germany for warnings and danger signals, and I would point out that the effect of placing the administration of medical benefits in Germany in the hands of committees controlled by working men has been to cause a bitter quarrel between the two parties, and has led to the formation in Germany of a medical organization with a membership of 21,210, known as the Leipzig Union (*Leipziger Verband*). Its object is to meet organization by organization, to create a fund for fighting purposes, and to form a league for conducting an agitation in the event of any action on the part of the societies contrary to the interests of the medical profession. It is, in fact, a trades union founded on the same lines and having similar objects to those of the workmen, and ready to use the same means, namely, a strike, to gain its end. Our German colleagues claim that although this has been said to be unworthy of a liberal profession, it is the necessary outcome of the situation created by Parliament, which has sought to

benefit the wage earners at the expense of the medical profession. So far the Leipzig Union has been victorious in all the contests in which it has been engaged, the best part of the medical profession having rallied absolutely under the banner of professional union. Those who have remained outside are only army doctors, university teachers of theoretical subjects, doctors without practice, and a few cautious medical bureaucrats; and no one knows better than the leaders of the workmen's societies and the directors of the insurance companies that they must rely only upon the most incapable medical aid should they quarrel with the medical profession.

What has been done in Germany can be done here. If Parliament forces a fight upon us we are not unorganized. The British Medical Association, which was founded with quite other objects, has been compelled by the militant tactics of the friendly societies and clubs to create a department for the defence of medical interests, and this is conducted with great ability by the Medical Secretary, Mr. J. Smith Whitaker. During the past year and owing to the threatened danger, over 3,000 new members have joined our ranks, and approximately we number to-day 24,400 members.

An Antirabic Vaccine.

The preparation of a safe and efficient antirabic vaccine has engaged the attention of Lieutenant-Colonel Sir D. Semple. His object was to secure a vaccine which would confer a high degree of immunity, be free from risk, and at the same time be capable of ready transportation without fear of deterioration. The methods most commonly practised at present (Pasteur's and Högges') involve the injection of actual living virus, attenuated or diluted. They have been found quite satisfactory, but the introduction of a living virus is not free from objection if it can be shown that a dead virus is equally efficient. The technical difficulty was to discover the best means of killing and preserving the virus without destroying its immunizing properties. The alternatives of heat and antiseptics were discussed, and from previous experience with antityphoid vaccines, it was decided that an antiseptic such as carbolic acid was the most satisfactory agent. The method which Semple advocates is to make an 8 per cent. dilution of rabies virus in normal saline, to which 1 per cent. carbolic acid is added, and to keep this at a temperature of 37 C. for twenty-four hours. By this means the virus is killed. The mixture diluted with an equal bulk of saline solution gives a vaccine containing 4 per cent. virus and 0.5 per cent. carbolic acid. This was found to confer a high degree of immunity on monkeys, dogs, and rabbits, and the serum obtained from these animals had a well marked rabicidal action on living virulent virus. Its efficiency is therefore unquestionable, and is apparently as great as that obtained by the use of living virus. It retains its power for some time, and can therefore be conveyed considerable distances. The method was intended primarily for use in India.—*B.M.J.*

Nuclear Structure of Bacteria.

An important contribution to our knowledge of the nuclear structure of bacteria has recently been made by C. C. Dobell. Owing in some measure to difficulty of technique, the idea has become widely spread that bacteria, as a rule, are enucleate cells, but Dobell points out that in all bacteria which have been adequately studied some form of nuclear structure has been demonstrated. The morphology of the nucleus varies to a surprising extent, not only amongst different varieties of bacteria but also at different periods in the life of the same species. Judging by the changes in the nucleus, it may be deduced that the bacteria are not so simple as might

appear, but that a more or less complicated life-cycle occurs. The various forms which the nucleus assumes may be summarized as follows: There may be a definite system of chromidia or chromatin granules, or there may be one or more aggregated masses of nuclear material. Again, the nucleus may take the form of a filament disposed in various ways; it may be branched or it may consist of strands or bent rods. Finally, it probably also occurs in the vesicular form characteristic of many other plants and animals. Mr. Dobell's conclusion is that we have no reasonable evidence to warrant the belief that enucleate bacteria exist. Investigations on the same subject have been made by H. Pénau, and in his latest publication he deals with the cytology of the anthrax bacillus. He recognizes a well-marked cycle of development in which five stages can be differentiated. At first the cell consists of an almost homogeneous mass of protoplasm which stains with basic dyes. After twelve hours' growth the nucleus appears at one pole as a definite body, which readily takes on nuclear strain. In the next stage it is replaced by a basophile reticulum, which gives the bacillus a vacuolated appearance. In about three days this reticulum becomes broken up into beadlike masses which collect together. The aggregate becomes more and more discrete, and eventually assumes an ovoid or globular form; finally it appears as the spore. According to Pénau, therefore, the spore is the direct descendant of the nucleus.—*B.M.J.*

Personal.

BRYDEN.—On Sept. 2, at 73 Bishop's Park Road, Fulham, the wife of R. Bryden, F.R.C.V.S., of a son.

OBITUARY.

WILLIAM OWEN WILLIAMS, F.R.C.V.S., The University, Liverpool.

Graduated, New, Edin: April, 1881.

Prof. Williams, F.R.C.V.S., F.R.S.E., was born in Bradford, Yorkshire, in 1860, he was the son of the late Prof. William Williams, Principal of the New Veterinary College, Edinburgh. It was at this College that Prof. W. Owen Williams received his first instruction in veterinary science, which he supplemented at the Alfort Veterinary College, Paris. Returning to Edinburgh he rejoined the New College, becoming hospital surgeon and demonstrator, then Professor of Veterinary Medicine and Surgery as applied to the ox, sheep, pig, and dog, and finally Principal in 1900. He was President of the Council of the Royal College of Veterinary Surgeons, 1902-4, and President of the National Veterinary Association in 1905-6. In 1904 he accepted the Professorship of Veterinary Medicine and Surgery in the University of Liverpool. From 1903 Professor Williams had been Veterinary Surgeon to the Establishment of King Edward's and King George's Stables. Prof. Williams was the author of many contributions to veterinary science. He edited a work on the "Principles and Practice of Veterinary Medicine and Surgery," had been Editor of *The Veterinary Journal*, and revised Fleming's "Operative Surgery," vol. II. During the Boer War Prof. Williams acted as supervisor of horses sent out by the War Office.

Prof. Williams married in 1885 Annie Christine, daughter of Mr. John Flint, of Glasgow, by whom he had two sons and a daughter. He had been in ill-health for some days, and died suddenly, while talking to his son. His age was 51 years.

AARON SISSONS, M.R.C.V.S., Whinnah, Lamplough, Cumberland. Graduated, Edin: April, 1870.

Death occurred on August 18th, at his residence, from general paralysis. Aged 69 years.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,
WAR OFFICE, WHITEHALL, Aug 2
TERRITORIAL FORCE. OFFICERS TRAINING CORPS. 9
Royal Veterinary College of Ireland Contingent,
Senior Division.—Lieut. A. E. Mettam is granted the
provisional rank of Major. Dated July 1.

CORRESPONDENCE.

DISEASES OF THE DIGESTIVE ORGANS
IN THE OX.

Sir,

I must thank Mr. Mayall for his courtesy in replying to my queries, and beg to state that his explanations and views on the above will prove of marked assistance to me in the work on which I am engaged.

With reference to the queries of "Enquirer" unfortunately I am in the humble position of querist myself, and am seeking for information. However, in reply to Query 1, I should say that the ingesta in the omasum is *not always* dry and in the form of leaves, as I have examined the organ on several occasions and found the contents quite soft, in fact succulent in some cases.

I think the proper authority to answer this query would be an inspector of abattoirs, who has ample opportunities of observing the condition of this organ in normal animals.

With regard to the mucous, epithelial, or papillary membrane peeling off easily, I have not observed this in the omasum, but I know that it does occur in the rumen, if the organ is not examined until some time after death.

Query 2.—This to a great extent depends on the answer to query 1. I doubt the existence of such a condition as impaction of the omasum, but as there are many degrees of dryness, it is difficult to know where to draw the line. If the functions of the other divisions of the stomach are in abeyance, one would expect to find the contents of the omasum hard and dry.

The answer to the last query is—No, but there must be a number of veterinary surgeons who have paid attention to the condition of the omasum in a normal state, and who have opportunities of doing so. It was with a view to obtain definite information from a number of such observers that I put forward the queries, and I am hopeful that some useful information may result.

The opinions of observant practitioners are of far greater value than the information derived from text books, as many of the latter follow on the lines of their predecessors.

—Yours, etc.,

Sept. 2.

E. WALLIS HOARE.

"SIDE-LINES" IN PRACTICE.

Sir,

I agree with many of the remarks made by your old and respected correspondent "Old Obadiah," who, I am glad to see, has once again come out of his hibernation to give us a few of his choice "tit-bits."

The young veterinary surgeon should obtain a fair knowledge appertaining to the smaller things of veterinary practice; he should try his hand at some of the Aristotlean operations, such as pig, cat, and dog spaying, caponizing, lamb cutting, etc., even if he relinquishes such work after obtaining the mastery of them. There is no disgrace in doing any small, if done honourably, and they often lead to higher things or aspirations. Pasteur studied the diseases of beer, silkworms, and grapes which led him to discover the true nature of the infectious diseases of man and animals. Jenner studied old women's talk which led him to put vaccination on a sound basis. Darwin studied earthworms, flowers, etc., and from the conclusions drawn from them revolutionised modern thought and gained for himself the title of the greatest mind of the Victorian period.

These few illustrations may depress the prig or conceited fool, but will perhaps give the ambitious hope.

As to avian pathology there is a wide scope and the knowledge gained from a study of it might be adopted for veterinary and human practice. But attention should also be given to the normal animal during life and after death. The examination of fish, reptiles, all classes of birds and the lesser mammals after death will frequently open his eyes and make him put on his thinking cap, especially as regards parasitism. As it is now, his post-graduate study is too narrow and, in consequence, his view of things, physiological and pathological, becomes very limited. The means, however, are generally at hand, but the opportunity is rarely seized.

Concerning "Old Obadiah's" statement that no book on avian diseases, beyond the one brought out by Dr. Salmon in 1899, has appeared from the pen of a veterinary surgeon, I believe that is not quite correct, because as a matter of fact there are several, but perhaps out-of-date. Certainly there are many first class articles on the infectious diseases of birds that have appeared, from time to time, in the various veterinary journals, and which have been penned by such eminent authorities as Sir John McFadyean, Bang, Perroncito, Cettani, Marcone, Tartartowsky and Marx and Sticker, and many others too numerous to mention. Even several papers on the same subjects have been written by young Colonial and continental veterinary surgeons, who have not thought avian pathology beneath them. As it was, avian pathology revolutionised our ideas of immunity and lead up to the present state of our knowledge. Surely this should be enough for "Old Obadiah," unless he wants to see a good modern book, written by a practical man, having had a scientific training and with a wide range of knowledge. It is quite true there is room for such a book. But where is the man? There are plenty of pot-boilers.

Respecting parasitism in birds and other animals, I believe its importance has been *unduly inflated*. I read in the recent report on "Grouse disease" that 95 per cent. of the healthy birds also harboured the *Trichostrongylus pergracilis* (Cobbold, who was also my preceptor, was content to call it *Strongylus pergracilis*) in their system! Cobbold says "As regards the so-called 'grouse-disease,' during one season it may be due to tapeworms, during another to strongyles, during a third to both these parasites. Unfortunately, other avian epizootics, not necessarily due to parasites of any kind, may be mistaken for helminthic epizooty." (*Parasites of Man and Animals*, 1879.)

I have given a little attention to parasitism in birds and other animals killed when apparently healthy or died from disease, and rarely found parasites absent, providing no vermifuge had been administered during life.

I am not speaking from imagination nor worshipingly following the teaching of authorities when I repeat with all seriousness that the effect of parasites on animal life is greatly exaggerated. Their presence, however, is an easy explanation of the cause of disease.—Yours, etc.,

ENQUIRER.

CAN R.P.s. USE V.S.? NO.

Sir,

I have lately come across two certificates issued by a Registered Practitioner who uses the title V.S., I have had legal opinion on the matter, and the result is that the use of V.S. by a registered practitioner is a direct infringement of the Veterinary Surgeons Act, 1881, Sections 15 and 16, where it is stated that "no person registered under this Section shall be deemed to be a member of the Royal College." Section 16 says: "If after the passing of this Act any person not being a Fellow or Member of the Royal College of Veterinary Surgeons takes or uses any name, title, or addition by letters placed after his name is liable to a fine of £20."

Here we have a man usurping a title to which he has not the slightest legal claim, and is endeavouring to hoodwink the public by flying colours to which he has not the most remote title, or even, I hope, will have.—Yours faithfully

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When the Chair will be taken by

LEONARD BRASSEY, Esq., M.P., and the
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STEWART STOCKMAN, Esq., M.R.C.V.S.,
Chief Veterinary Officer to the Board of
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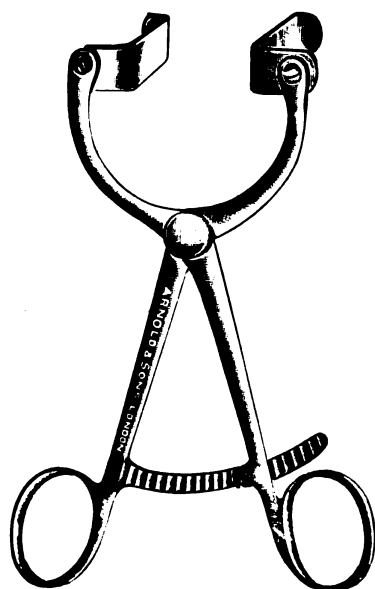
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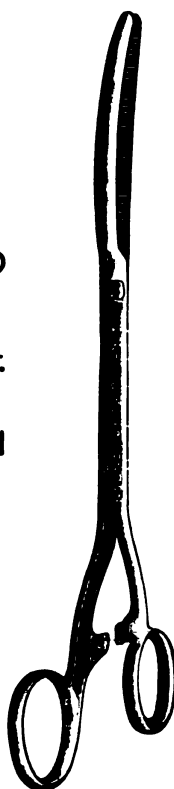


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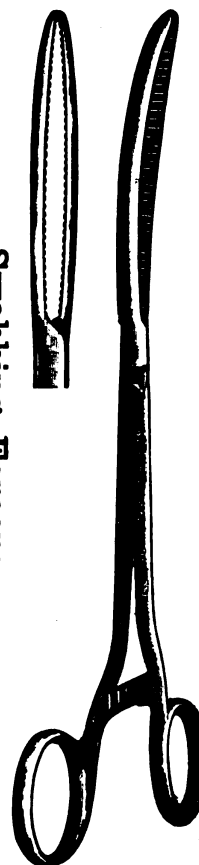


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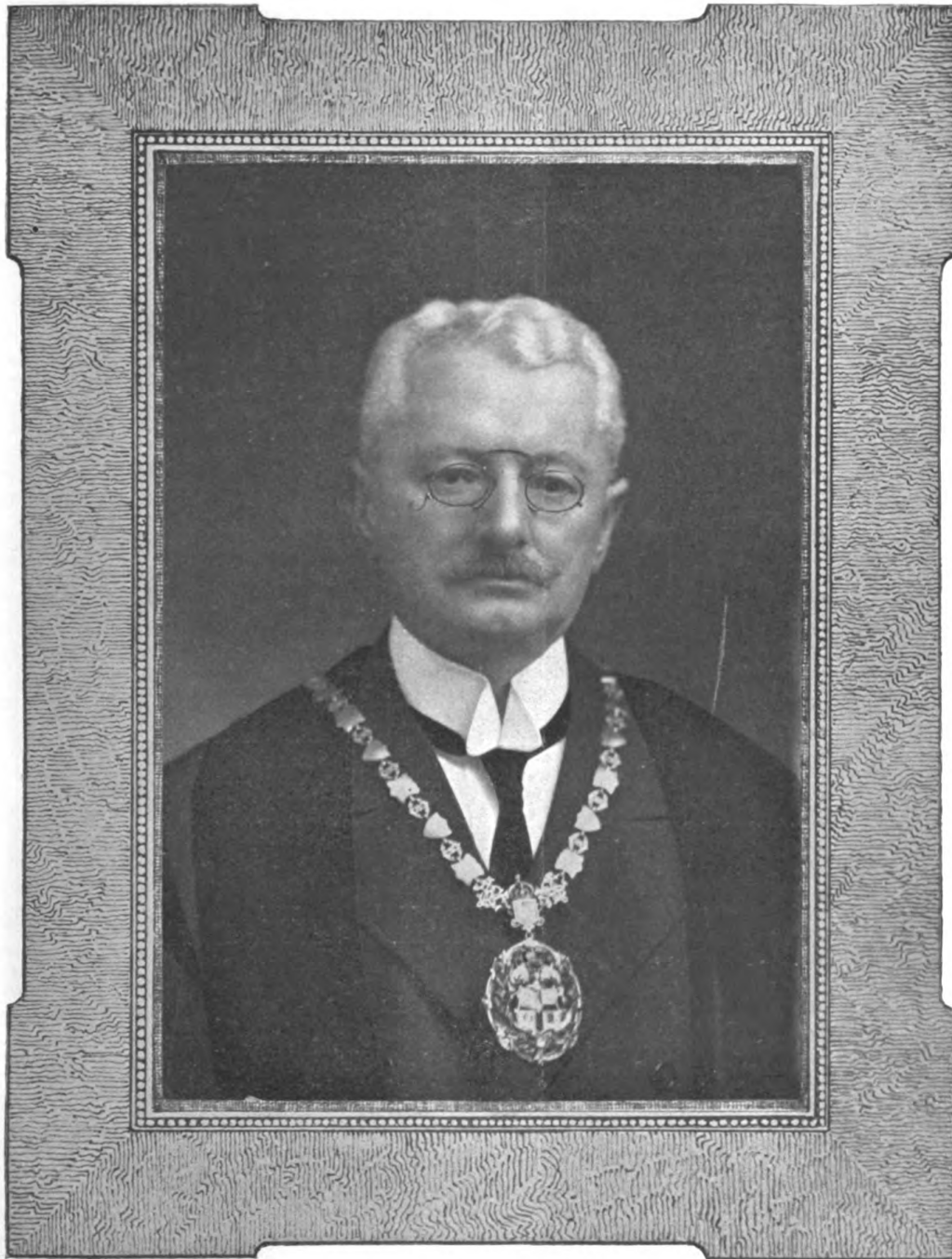
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Professor of Veterinary Medicine and Surgery, Liverpool University.

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Professor Owen Williams.

There is a disadvantage in being the son of a great man, or even in bearing the name of the very eminent. No one of the name of Gladstone can hope to be very prominent after W. E. Gladstone. So with Professor Owen Williams. Until his father's death in 1900 he was comparatively unknown outside of Edinburgh. There were two Professor Williams at the New Veterinary College, but the father's reputation and position overshadowed the son to such an extent that there might have been only one so far as name and fame were concerned. On the death of Principal Williams his son Owen became principal, and much anxiety was felt by his friends as to his ability to successfully conduct the institution, which was not left in a strong financial position. But Owen Williams rose to the occasion and showed himself possessed of business qualities and force of character quite unsuspected. He conducted the New Veterinary College up to the time it was transferred to Liverpool with marked success, and his students continued to exhibit the same proficiency in clinical medicine and surgery that had marked the men under his father's tuition.

Owen Williams had attempted to bring about some connection between veterinary science and the Universities for years before the question was taken up by Professor Rubert Boyce, and it was quite in accordance with the fitness of things that when Liverpool University offered to embrace a veterinary faculty, he should throw in his lot with the adventure. It was pointed out at the time that the public requirement for veterinary surgeons was not increasing, and that the establishment of more veterinary schools was hardly warranted, even if they were under the ægis of a University. However, seven years have passed since then and the Liverpool Veterinary School is still alive and active.

Professor Owen Williams graduated in Edinburgh in 1881, and afterwards continued his studies at the French Veterinary School at Alfort. Returning home he joined the teaching staff of the New Veterinary College. In 1886 he took the Fellowship degree. In 1894 he was elected a Member of Council of the Royal College of Veterinary Surgeons, and became a Vice-president in 1898.

In 1902 he attained the highest position in the veterinary profession—President of the R.C.V.S.—and so well did he fill the office that the Council re-elected him for a second term—an honour seldom offered to anyone. He has played many parts in his professional life, and in all has shown grasp of the situation. When the South African war took place he patriotically offered his services

and was sent to the United States to assist in the purchase of transport animals. On this job he had the initial difficulty of organising the work, and had only succeeded in overcoming it when he nearly lost his life from an attack of typhoid fever.

For some years he edited *The Veterinary Journal* with conspicuous ability. He also edited more than one edition of his father's well known works on Medicine and Surgery. Fleming's "Operative Surgery," Vol. II., was a work he saw through the press, and made complete by writing the last few pages which the author was prevented by death from finishing. He contributed a number of papers to local veterinary societies, and was President of the National Veterinary Association.

Prof. Owen Williams' untimely death at the early age of 51 leaves the veterinary profession poorer, and although it is not probable that he would have added much to original research had he lived, he would certainly have done good work in his professional position in instilling into future graduates sound practical knowledge of medicine and surgery.

In private life Owen Williams was a good friend and pleasant companion. He had been given a liberal education, including terms at the University of Edinburgh; he possessed far above the average intellect, was well read, and had a sense of humour, which is a saving grace in all men. He leaves a widow, two sons and a daughter, with whom the most sincere sympathy for their irreparable loss will be felt by a very wide circle of friends.

At the funeral, which took place last Saturday, there was a large attendance of friends and colleagues from the University and the veterinary profession.

Our portrait presents the Professor in his official state as President of the Royal College of Veterinary Surgeons.

CIVIL VETERINARY WORK IN BENGAL.

This week we publish a Government resolution on the annual report of the Veterinary College and Civil Veterinary Department of Bengal for the year 1910-11. The resolution is itself a condensed report of the various activities of the Bengal Civil Veterinary Department, among which is the Bengal Veterinary College, directed by Colonel Raymond, I.C.V.D. Its concluding clause is an emphatic official commendation. "The Lieutenant-Governor in Council congratulates Col. Raymond on another year's efficient administration, and thanks him for the care and tact which he has displayed in the conduct of his duties." This is not the first official recognition of the merit of the civil veterinary work of India that we have heard of late, and, like the others, it shows that the C.V.D., is gradually becoming more patently valuable to the country.

The document enters in some detail into the year's work in Bengal, which may be pronounced highly satisfactory. Even in the one direction in which the need for further improvement is most emphasised, the conditions show an advance upon those of former years. Slackness in reporting outbreaks of disease, and hostility to inoculation methods still remain in some districts, but the mere fact that the inoculations performed during the year under report have about doubled the total of the preceding one shows that the population is becoming less prejudiced.

No native opposition seems to have been encountered in Calcutta and its neighbourhood, where the control of epizootic diseases is conducted by Col. Raymond himself. Rinderpest, foot-and-mouth disease, and glanders, while not very prevalent, are nevertheless in evidence in and around Calcutta, and cast a heavy additional responsibility upon the Principal of the Bengal Veterinary College. Glanders, we notice—so far as the number of infected stables is concerned—declined more than 33 per cent. during the year under report, thus diminishing to much the same extent as it did here during the same period.

The progress of the Veterinary College and its hospital, and also that of the Raymond Research Laboratories, seems altogether good. So far, unfortunately, the various outlying veterinary dispensaries scattered throughout Bengal, have made no great headway in gaining the confidence of the natives; but they are certain to do so in time. The C.V.D. in Bengal increased its staff numerically during the year; and every additional inspector or assistant means one more factor in overcoming popular prejudice.

In the meantime, Col. Raymond and Mr. Quinlan may be congratulated upon their twelve months' work. "Another year's efficient administration," such as this is admitted to be, marks a further stage in the development of a Department which, though still young, is already becoming invaluable.

ACTINOMYCOSIS.

The accompanying photographs illustrate the appearance presented by a typical case of actinomycosis which recently came to the notice of the writer when in the vicinity of Cape Town, South Africa.

Figure 1 shows the cow's head—the subject of this short note—prior to slaughter. As will be seen the case was a very well marked one, both rami of the lower jaw being extensively involved in the diseased process. In figures 2 and 3—microphotographs from a section of the diseased tissue shown in figure 1—are depicted three colonies of the streptothrix actinomyces, each surrounded by round cells and leucocytes, and externally by fibrous tissue; whilst figure 4, likewise a microphotograph from the same section, shows the edge of one of the colonies—the radiating club-like elements are here well in evidence.

One does not for one moment claim that this particular case differed in any respect from the textbook description of the malady. The photographs are here reproduced merely in the hope that they may be of some slight interest to readers (more especially to the younger ones) of *The Record*, illustrating, as they do, a well marked and typical example of infection with the streptothrix actinomyces.

WALTER JOWETT, F.R.C.V.S., D.V.H.

TOXIC DOSE OF SULPHUR.

On Monday last I was called in to a 14 hands cob with the history that the owner had given him $\frac{1}{2}$ lb of sulphur (after having weighed it) in his food, on the previous day at 12 o'clock, "to cure proof worms."

I saw the cob at 8 p.m., 20 hours after having eaten the sulphur, he was then showing colicky pains, very offensive diarrhoea, extremities cold, pulse quick, almost imperceptible, and died at 12 o'clock, just 18 hours after having taken the sulphur.

I have had several deaths from sulphur poisoning, but have never before known the exact amount given, and I thought this case worth recording on that account.

CHARLES E. PERRY, F.R.C.V.S.

Bristol.

ABSTRACTS FROM FOREIGN JOURNALS.

UMBILICAL TUMOURS AND UMBILICAL INFLAMMATION IN THE CALF.

Gmelin has stated that neoplasms at the navel are very rare in the domestic animals, and do not occur in ruminants to his knowledge. Gustav Rozsa, however, now describes (*Allatorvosi Lapok*) two such cases which he has recently observed, both in bull calves of three weeks old. In one case the tumour was two inches long, 4-10th inch thick, bright red in colour, and situated hat-like upon the stump of the umbilical cord. In the other case the tumour showed no rim-like edge, but its colour was similar to that of the first one. The tumour divided like the fingers over the abdomen; and, upon section, it seemed to be composed of firm connective tissue. In both cases excision with the knife was practised with success. The tumours, in common with the stump of the umbilical cord, were removed; the wounds were sutured; the sutures were removed on the third day; and healing was complete in two weeks. The author adopted the plan of protecting the wound with an antiseptic bandage, in order to avoid contamination by urine and straw.

The purulent inflammation of the navel in calves, according to Rozsa's experience, is not so serious a disease as many suppose, if it is subjected to timely and adequate radical treatment. The symptoms are



Fig. 1.

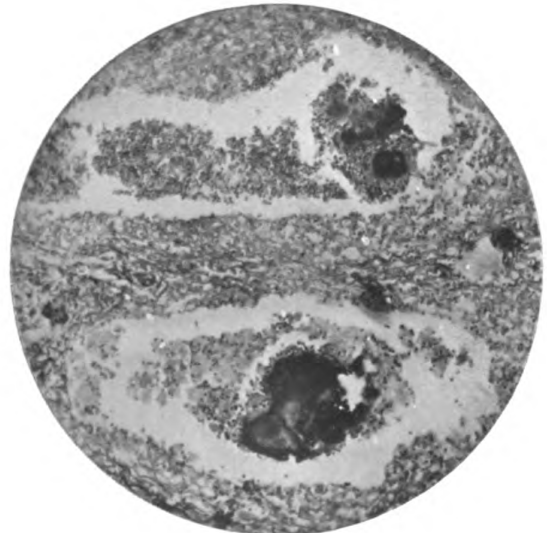


Fig. 2.

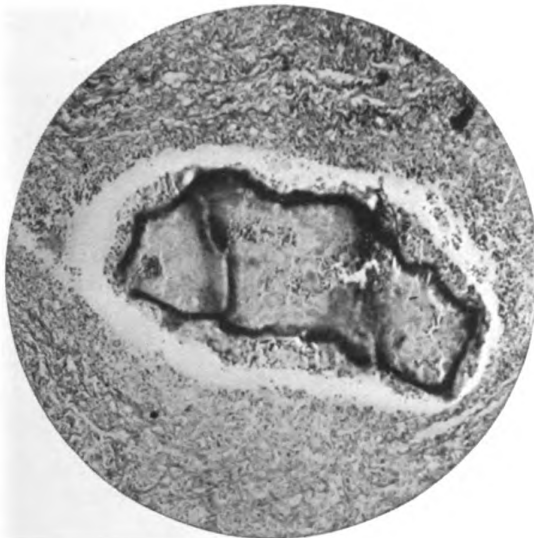


Fig. 3.

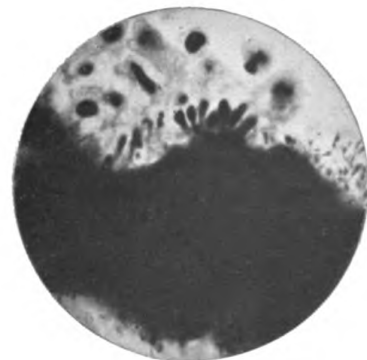


Fig. 4.

Cow's Head: 2, 3, Sections of the diseased tissue:
4, Portion of same section, showing "clubs."

ACTINOMYCOSIS.

Note by Walter Jowett, F.R.C.V.S.

dulness and loss of appetite; the navel string is uniformly swollen, warm, and painful; grey-brown greasy crusts are found upon the stump of the navel string; and the neighbouring tissue is similarly infiltrated, and is malodorous. The treatment should be operative in every case. The animal should be placed in the dorsal position, and the field of operation adequately prepared. The stump of the navel string, with the skin attached to it, is then removed; and the whole cavity is thoroughly scraped out with a curette, in which process a considerable quantity of malodorous, greasy, grey-brown, necrotic tissue is always removed. A tampon of wadding of a suitable size is then placed in the cavity, and an antiseptic bandage applied over the whole. Recovery takes place without any further treatment, and is so rapid that the calves begin to suck soon after the operation. The cause of this disease is uncleanness; and Rozsa mentions that in his district it is customary to pay no attention to the navel string, and to allow the cow to lick it off. In the case of bull calves, the urine reaches the navel during urination; and on that account diseases of the navel are more common in bull calves than in heifers.—(*Berliner Tier. Woch.*)

PAPILLOMATOUS DERMOID CYST IN A DOG.

Roquet records (*Journal de Méd. Vét. de Lyon*) the following case in a two-year-old dog. The animal showed a circumscribed swelling, of the size of a pigeon's egg, upon the left side of the root of the penis. The skin in this region was extensively ulcerated, and a fistula existed—the latter being very short in its course, indurated at its edges and surrounded by a zone of slight inflammation, and giving exit to a not very abundant purulent exudate.

The dimensions of the exterior orifice of the fistula rendered the extirpation of the cyst very easy. It was enucleated without difficulty by the aid of digital pressure.

The neoplasm was found to be oval in shape and surrounded by a membrane of connective tissue, which was greyish white, not very thick, and elastic in consistence. When incised, it was found to be filled with a creamy, spangled, somewhat nacreous substance, which the author compares to boric acid in its aspect. The internal face of the cyst-wall was also spangled and nacreous; but, when all material of this nature had been removed from it by means of a jet of water, it showed filiform projecting papillæ of from $\frac{1}{4}$ inch to 2-5th inch long.

The cyst-contents, when microscopically examined in a drop of glycerine without staining, were found to consist of small epidermal scales, free or joined together, colourless and brilliant, detached from the internal face of the cyst-wall.

The cyst-wall, throughout its extent, possessed the simple structure of the skin without pilo-sebaceous follicles, but with very long filiform dermal papillæ covered with very well developed stratified horny epithelium. The great number of these papillary projections had given the internal face of

the cyst-wall its foliated papillary aspect to the naked eye. Histological sections of a fragment of the cyst-wall showed the characters of a horny papilloma.—(*Annales de Méd. Vét.*)

PHLEBOTOMY IN AZOTURIA.

Wyssmann (*Schweizer Archiv*) after summarising the views of different authors upon the effects of phlebotomy, declares that it is of the greatest utility in azoturia. In serious cases of this affection, the practitioner always finds dyspnea, with a profound alteration of the pulse; the respiration is always accelerated and often difficult. It is therefore comprehensible that phlebotomy should be useful in facilitating the cardiac and pulmonary functions.

After practising phlebotomy in cases of azoturia, the patients almost always become much calmer. In every case, the bleeding not only produces a mechanical effect, but also has an action in eliminating a certain quantity of toxic products from the organism. It is known that bleeding stimulates the urinary secretion and thus indirectly favours the elimination of products of denutrition; and this effect is obtained much more rapidly and completely by phlebotomy than by the administration of medicines.

Moreover, von Hoesslin has demonstrated experimentally that each bleeding is followed by the passage of a certain amount of sodium chloride from the lymphatic system into the blood, and that this is quickly followed in its turn by the elimination of a portion of the products of denutrition which act toxically, and which can only leave the organism by the urinary passages. It is probable, also, that the effects of bleeding in azoturia should be partially attributed to the specific action of hæmorrhage upon the blood-forming organs, such as the bone marrow and the spleen.

Wyssmann also relates his own personal observations of azoturia, which are based upon 43 cases. Of these 37 occurred during the winter months, and six only during the summer ones. The author deduces from this that chill, if it is not a direct cause of azoturia, at least acts as a predisposing condition.

All these 43 cases were bled at the jugular, and the amount of blood taken varied from 4 to 8 litres (approximately from 7 to 14 pints). In 10 horses, bleeding was practised when the animal was already recumbent; and 7 of these cases succumbed to the disease. The other 33 horses were bled while they were still standing, and only one died from azoturia. The percentage of mortality for the whole 43 cases is therefore 16.4%, and it is notable that, in animals bled when recumbent the mortality reached 70%, while it was only 3% in the case of those bled while still standing.

It is important, of course, to stop all work as soon as the first symptoms of azoturia appear. The author, however, has met with serious cases in which, though the horse was still standing, dyspnea was violent and transpiration abundant, and in which, by immediately having recourse to copious bleeding, he has enabled the patient to travel for

another half-hour. He remarks that this would have been impossible without bleeding.—*Annales de Méd. Vét.*

(Wyssman's belief that "chill" is a very important, if not the main factor, in the causation of azoturia, is one which is very largely held among Continental veterinary surgeons.—TRANS.)

BRONCHIAL LITHIASIS.

V. Ball (*Journal de Méd. Vét.*) has observed this affection in a thirteen-year-old cat. The animal had shown fits of coughing corresponding to veritable calculous crisis, and had finally developed dyspnoea, loss of appetite, and emaciation. The author remarks that the expectoration of a broncholith by the cat, if it had occurred and had been observed, would have established the diagnosis as it does in the case of the human patient. This cat finally succumbed to a crisis of asystolism with pulmonary oedema.

Post-mortem, partial atelectasis of the middle and anterior lobes of the lung was found. The lungs showed slight passive congestion, with oedema; and some centres of active congestion were also found. The right anterior lobe showed a small hæmorrhage, which was adjacent to a centre of chronic broncho-pneumonia, the latter being yellowish-grey in colour, mamillated upon its surface, and measuring 1 1-5th inch long by 4-5th inch broad.

This broncho-pneumonic centre was situated in the region adjoining the pedicle of the pulmonary lobe in question. When it was sectioned transversely, the pulmonary tissue showed dilated bronchi (bronchiectasis) from which a yellowish, thick, turbid, and glairy muco-purulent fluid was escaping. The knife, when cutting, was arrested by stony concretions which were lodged in the bronchi, and especially in one particularly dilated bronchus. This last-named bronchus contained a stone, of cylindrical shape and an irregular granular surface, surrounded by muco-pus. This stone, when washed with water, was found to be of a greenish-white colour, opaque, and measuring 4-10th inch long by 1-6th inch thick.

Five other stones were found, either more remotely situated in the same bronchus or in other neighbouring dilated bronchi. Some were small, muriform, pale green or greenish-white, and opaque; others were larger, and were elongated and irregular in shape.

Chemical analysis showed the stones to be formed of phosphate and carbonate of calcium.

The heart was voluminous, but affected with general dilatation. Another lesion was found which is exceptional in the cat, viz., the mitral valve showed lesions of chronic vegetating endocarditis, which had entailed insufficiency of the orifice. This was the cause of the hypertrophy and dilatation of the heart, which had manifested itself in the lung by the passive congestion and oedema.

The autopsy also revealed the existence of a slight ordinary ascites, the exudate of which was citrine, clear, and very fluid. The lesion was of cardio-hepatic origin. The liver was slightly atrophied, red-brown in colour, and firm in con-

sistence (cirrhosis). The hepatic veins were very apparent, showing passive congestion of cardiac origin.

The author concludes by mentioning an observation he made in the section of an aged horse. In a posterior lobe of this animal's lung, and near to the surface, he found a small smooth-walled cavity in which a calculus was lying free. This pneumolith was cylindrical in form, with short branches, was a little irregular upon its surfaces, and measured 4-5th of an inch long by ¼ inch thick.—(*Annales de Méd. Vét.*)

W. R. C.

THE BENGAL VETERINARY COLLEGE.

The following is a Government resolution (No. 2,501 Agri.) dated the 12th August, 1911, on the annual report of the Bengal Veterinary College and the Civil Veterinary Department, Bengal, for the year 1910-11.

"Colonel Raymond was Principal of the Bengal Veterinary College and Mr. Quinlan was Superintendent of the Civil Veterinary Department throughout the year. Mr. P. J. Kerr, I.C.V.D., joined for training on the 22nd January, 1911.

2. *Bengal Veterinary College.*—The number of students on the College roll at the beginning of the session was 176, but the actual number in the classes at the end of the session was 138. Of these, 38 came from Bengal, 15 from Bihar, 5 from Orissa, 67 from Eastern Bengal and Assam, and 13 from other provinces. The results of the final examination were satisfactory, the percentage of passes being 76. The conduct and general health of the students were good. The Principal reports that the students' private sick bay which was opened last year has been useful and is appreciated. A curator and librarian has been appointed for the museum attached to the college. The usual nursing class for Army Transport drivers was held during the vacation and was attended by eight men who were found competent at the end of their course.

3. *College Hospital.* During the year under report 5,869 cases were treated as compared with 5,680 during the previous year, showing an increase of 189. These figures do not include 4,000 hackney-carriage horses which were examined for the Calcutta Corporation. The number of animals sent for treatment to the college hospital in connection with cruelty cases was very small.

4. The administration of the Glanders and Farcy Act in Calcutta and its neighbourhood was conducted smoothly and efficiently under the supervision of Col. Raymond. During the year 4,025 stables containing about 16,000 horses were inspected and glanders was detected in 34 stables as against 54 in the preceding year. The total number of horses admitted into the contagious diseases hospital was 303, including 7 horses which were under observation at the close of the preceding year. Of these, 57 were destroyed, 10 died in hospital, and 230 were discharged as free from glanders, and 6 remained under observation at the close of the year. A sum of Rs. 245-5-4 was paid as compensation for the destruction of animals under the Glanders and Farcy Act in the area under the supervision of Colonel Raymond. There was no friction with the people. The management of outbreaks of all epizootic diseases, undertaken by Colonel Raymond with the sanction of the Calcutta Corporation, has borne excellent results. Special provision was made for the inspection of cattle belonging to private milk-vendors. Rinderpest was prevalent in Calcutta and the suburbs during the year; and foot-and-mouth disease appeared in several parts of Calcutta and in the Howrah and Garden Reach muni-

cipal areas. Prompt assistance was rendered in all these outbreaks. In Calcutta and the suburbs 2,276 cattle were inoculated against rinderpest.

5. *Raymond Research Laboratory.*—This institution continued to do excellent work in the diagnosis of contagious and obscure diseases in cases admitted into the hospital, and from materials sent by veterinary officers from the mufassal. The laboratory has now been fitted with an electric installation and with up-to-date instruments. Two veterinary graduates from the Civil Veterinary Department, Bengal, passed the post-graduate course of training for promotion to Inspectorships during the year.

6. *Civil Veterinary Department—Treatment of Diseases.*—Though an improvement has been noticed in some districts with regard to the promptitude with which outbreaks of disease are reported, much still remains to be done in this respect. The Lieutenant-Governor in Council notes with regret that there are complaints against the Agricultural Associations of supineness in reporting cases of outbreaks. The Inspector-General of Police has issued orders that a register of diseases is to be kept in each thana. The staff of the Veterinary Department attended 282 outbreaks in the mufassal, and performed 25,782 inoculations as compared with 12,746 during the previous year. This is satisfactory, but more can be done if the co-operation of the more enlightened members of the public is secured and the raiyats become more willing to accept this method of prevention. In North Bhagalpur, Gaya, Hooghly, Burdwan, Sonthal Parganas, Muzaffarpur and Champaran the Veterinary Assistants met with great opposition, and the fact was brought to the notice of the District Magistrate on each occasion. The efficacy, however, of preventive inoculation is beginning to be recognised.

7. *Veterinary Dispensaries.*—No new dispensary was opened during the year. One is under construction

at Bettiah, and one at Beguserai has not yet been equipped. Excluding the dispensaries at Howrah and Cooch Behar and the Pinjrapoles at Hazaribagh and Sodepur, there were 22 dispensaries under the direct supervision of the Superintendent during the year. It is proposed to close the dispensaries at Balasore, Palamau and Suri, in which very few cases are being treated. There was a slight falling-off in the total number of out-patients treated, and it is to be regretted that the raiyats have not yet learnt to appreciate the usefulness of these dispensaries.

8. *Breeding operations.*—Government does not at present possess any farms for the breeding and rearing of bulls. Two such farms are, however, maintained by the Hathwa and Bettiah Wards' Estates, which supply bulls for use in their respective areas. A herd of Siri cattle is being reared at Kalimpong by the St. Andrew's Colonial Homes with a view to improve the breed of cattle in Darjeeling. The demand for bulls for breeding purposes is on the increase, and the question has been engaging the attention of the Director of Agriculture for some time.

9. *General.*—There were 8 Inspectors and 71 Veterinary Assistants under the control of the Superintendent of the Civil Veterinary Department at the close of the year against 6 and 62 during the previous year. The scheme for the formation of a Provincial Veterinary Service was sanctioned during the year, but was not brought into operation. The local bodies concerned have been consulted by the Director of Agriculture, Bengal, and his recommendation to give effect to the scheme from the 1st April, 1911, has been accepted by Government.

10. The Lieutenant-Governor in Council congratulates Col. Raymond on another year's efficient administration and thanks him for the care and tact which he has displayed in the conduct of his duties.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.		Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.	
		Outbreaks		Animals				(including Farcy)		Counties Affected			
		Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Anim-als.	Out-breaks	Anim-als.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.
Gr. BRITAIN.	Sept. 9	15		18			6	13				35	325
Corresponding week in	{ 1910		27	28			6	6	Hants 4	4	19	309	
	{ 1909		16	21			7	16			24	579	
	{ 1908		17	25			17	25	London 7	2	21	200	
Total for 36 weeks, 1911		598		746		8	425	138	325	Middlesex 2	307	1803	21123
Corresponding period in	{ 1910		1027	1235	2	15	257	781			343	1019	9167
	{ 1909		921	1232			382	1376			471	1273	11574
	{ 1908		775	1038	3	112	583	1808			639	1492	8700

Board of Agriculture and Fisheries, Sept. 12, 1911.

Parasitic Mange (outbreaks)

IRELAND. Week ended Sept. 9	...	...	...	...	...	...	...	1	...	8	
Corresponding Week in {	1910 ...	...	...	...	...	...	2	...	2	14	
	1909 ...	...	...	...	...	...	3	1	1	...	
	1908 ...	...	...	...	...	...	...	2	3	108	
Total for 36 weeks, 1911	...	7	14	...	...	2	3	52	254	92	1587
Corresponding period in {	1910 ...	5	8	...	...	1	2	56	349	73	1707
	1909 ...	5	5	...	...	...	...	67	306	83	1505
	1908 ...	6	9	...	...	...	...	31	276	135	2971

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 11, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Horse Breeding and Genetics.

In the Section, Agriculture, at the recent meeting of the British Association:

Mr. C. C. HURST submitted a paper on "The Application of Genetics to Horse-breeding." Soon after the discovery of Mendel's work in 1900 his attention was directed to the thoroughbred horse as a promising subject for investigation. The question of coat-colour provided a useful beginning. A few years' investigation of Wetherby's "General Stud Book" brought to light the fact that chestnut coat-colour was recessive to bay and brown. Consequently chestnut horses always bred true when mated together, notwithstanding their possible bay and brown parents and ancestors. On the other hand, bay and brown horses were of two kinds—either they threw chestnuts or they did not. Further investigation showed that grey coat-colour was dominant to bay, brown, and chestnut. Consequently every grey horse must have a grey parent and a grey ancestor in every generation in the direct line. In England grey thoroughbreds were few, and grey \times grey matings were rare; consequently English grey thoroughbreds were nearly all heterozygous, throwing bays, browns, or chestnuts. The genetic relationships between bay and brown, and between grey and roan, were not yet known. With regard to black, Prof. James Wilson had pointed out that in thoroughbreds all the so-called "blacks" were really dark browns with tan muzzles.

In the Shire and the Clydesdale, however, Professor Wilson found true blacks, which apparently behaved as dominants to chestnuts, and probably as recessives to bays, browns, and greys. With regard to chestnuts, it seemed likely that several genetic types might exist. Mr. J. B. Robertson had pointed out that the dark or liver chestnut behaved as a dominant to the light or yellow chestnut.

COAT-COLOUR AND RACING POWER.

To the practical breeder the question of coat-colour was a minor consideration, except, perhaps, in a few fancy breeds where certain colours were more popular than others. In the thoroughbred, at all events, a good horse was of any colour. A much more important question was—Can we win the Derby?

Generally speaking, coat-colour and racing power did not seem to bear any sort of relationship to one another, being apparently inherited quite independently. On the other hand, evidence was gradually accumulating which suggested that in certain strains there was a partial coupling of coat-colour and racing power. For instance, the famous St. Simon was a homozygous bay that never threw a chestnut. On the other hand, five of his most distinguished sons—Persimmon, Diamond Jubilee, Florizel II., St. Frusquin, and William III.—were all heterozygous bays and browns that threw chestnuts. These chestnut grandchildren of St. Simon had so far proved themselves to be much inferior in racing power to their bay and brown brothers and sisters. Thus, while these chestnuts had between them only won two classic races, their bay and brown brothers and sisters had between them won fifteen classic races, and were only about twice as numerous. Another interesting point under investigation was the apparent partial tripling of brown coat-colour, high racing power, and female sex in St. Simon's own offspring. St. Simon's brown fillies proved themselves to be strikingly superior in racing power to the bay fillies, the brown colts, and even to the bay colts, a few individuals of which were extraordinarily good. This was the more remarkable when we considered that in racing, colts had many advantages over fillies. It seemed possible that the elucidation of such an apparently trivial thing as coat-colour

might help to throw light on the more complicated question of the breeding of a classic winner.

HOMOZYGOUS HUNTERS.

It was generally admitted that the most useful type of light horse was the hunter. Recently Professor Cossar Ewart and he had drawn up a scheme of experiments in horse-breeding for the use of the Board of Agriculture, the object being to make a line of homozygous hunters. At present there was no such thing as a pure-breeding hunter; their studies had been mainly based on the thoroughbred chaser as probably the most suitable material upon which to work. Their investigation of the Stud Book and Racing Calendar to find suitable animals with which to experiment had led them to the discovery of the existence of homozygous 'chasers, though in very few numbers. After eliminating many hundreds of heterozygous and doubtful animals they had found five mares and three stallions, which, when bred together had given nothing but horses of the 'chaser type, as tested on the racecourse and at the stud. In view of this fortunate find of what might perhaps be called a 'chaser "pure line," they had recommended the Board of Agriculture to purchase some of the offspring of these animals, in order to increase the "pure line," and they hoped that this experiment would help them to solve the problem of the making of a homozygous hunter.—*The Times*.

Tuberculous Cattle and Compensation.

Dr. Collingridge, Medical Officer of Health, has presented to the Corporation of the City of London a report in which he analyses the final report of the Royal Commission on Tuberculosis, and points out that its findings fully justify the action taken by the Corporation from time to time on the advice of its officers. In discussing some of the administrative questions which arise, Dr. Collingridge expresses the opinion that a measure regulating the milk supply and applicable to the country as a whole is urgently required. He considers that every farmer who sells milk should be registered, that registration should only be allowed in the case of premises in good sanitary condition, and that every cow whose milk is sold should be tested by tuberculin by a veterinary surgeon. All cows found to react should be marked and registered, so that they can be followed up to the time of slaughter, and specially examined after. All cows found to be healthy should be kept absolutely apart from those reacting. No milk from any tuberculous cow (whether or no the udder be affected) should be allowed to be sold for human consumption, and if given to animals should be boiled or pasteurized before use. The machinery should be in the hands of the local authority, but ample power should be vested in the central authority to take action in case of default. All milk should be conveyed in dust-proof churns, locked or sealed and carried in properly constructed vans, and special precautions to ensure purity during distribution enforced. With regard to compensation in the case of animals apparently healthy, but found on slaughter to be diseased, Dr. Collingridge observes:

"So long as the present practice of selling to foreign countries the best of our strain which has proved to be free from tuberculosis (and foreign countries will accept no other), and retaining for the raising of our own herds at home those that react or are doubtful—so long will it be unwise to compensate. . . . Compensation should be at a fixed amount, applicable only to those animals which are clinically healthy, and no compensation should be given if it can be shown that the owner has been responsible for the disease by neglect with regard

to the breeding, feeding, or housing of the animals in question. Compensation should be given for a limited time only, say three years. During that period the farmer will be able to take reasonable steps to eradicate the disease from his herd. At the expiration of the term, the possession of a cow in a milking herd in an advanced stage of consumption should be a statutory offence."

Compensation, he thinks, if agreed to, should be paid out of national and not local funds. As regards meat, he considers that there is urgent need for a uniform standard throughout the country, binding upon all authorities, so as to abolish the absurd anomaly of meat being condemned in one locality part which is allowed to be sold in another.

VETERINARY WORK IN RUSSIA.*

By S. A. GRUENER, M.V.S., Veterinary Inspector, Kamtchatka, Russia.

We have only four Veterinary Colleges in Russia while you have nineteen such colleges in the United States. These four colleges in Russia are located at Charkov, in South Russia; Kasan, in East Russia; Jariev (formerly Dorpat), in Liveland, and Vasovie in Polen Russia.

All of these colleges were established fifty years ago, and the number of students was at that time small. For example, Dorpat, now Jariev, graduated only three students in 1880. But the growth of the number of students has been so great that now each college graduates more than one hundred each year. I have not the exact statistics of these colleges, called in Russia "Veterinary Institutes," but I can remember the data in round numbers.

College.	Number of students.	Number of graduates.
Dorpat (Jariev)	400	100
Charkov	500	120
Kasan	700	150
Varsovia	200	50
	1800	420

Statistics show that the United States has many colleges in which veterinary science is taught, but that there are comparatively few veterinary students in each college. In Russia, however, we have few colleges teaching veterinary science and a large number of veterinary students in each college. Which system, you ask, gives the better results? I answer, that I believe the system in the United States is the better, because a great many students in one college cannot get enough practical work as well as receive the proper instruction in crowded laboratories, and therefore gain only the theoretical knowledge.

The general average of students and graduates of veterinary science is greater in the United States than in Russia, and there are probably more veterinarians here than in Russia.

In comparing the course of study in Russian and American veterinary colleges we find that in Russia the course of study is longer. In the United States the students learn veterinary science in three years in the majority of colleges, and graduate as Doctor of Veterinary Science. In Russian veterinary institutes the

course of study requires four and one-half years to complete, and after passing the final examinations the students graduate only as "Veterinary Surgeons." If the students want to receive a higher degree they must take an examination again not earlier than one year after graduation and write on some topic and complete a thesis. They must defend their topic in the presence of the people, the laymen, the students and professors, "public defence." If their defence is accepted they will then receive the degree of "Magister (master) of Veterinary Sciences." The degree "Doctor" is not given to veterinarians in Russia. In other departments of the University (mathematics, language, history, zoology, botany, chemistry, etc.), the same order is maintained to receive the scientific degree. After finishing their course in the University some students take advance work, pass an examination, write on some topic and defend their work before the public. They then receive the degree of "Magister" (master) of Zoology, Chemistry, etc. To obtain the degree of Doctor, the Magister (master) must write on some chosen topic and defend it. The graduates in the medical department and medical colleges receive the degree of "Physician." If they desire a scientific degree they must take an examination again, write on some topic and defend their work. The "Physician" then receives the degree of "Doctor of Medicine" without the preceding degree of Magister (master).

In Russia you can be a Doctor of Mathematics, Astronomy, Greek, Literature and Medicine, but never of Veterinary Science. In Russia we have some veterinarians who have the degree of Doctor of Medicine, but after graduating with the degree of "veterinarians" they have enrolled in the medical department of some university and received first the degree of Physician and then that of Doctor of Medicine.

In the Russian Veterinary Institute the four-and-one-half-year course is longer than in America. It is more extensive in the natural historical sciences (Chemistry, Zoology, Comparative anatomy, Mineralogy, etc.), and has a complete course in physiology and (normal) histology. Thus we have a separate course in general pathology and a separate course in pathological anatomy taught by another Professor. We have a course in general hygiene and a separate course in zootechnics and bacteriology.

In Dorpat we have a separate course in horse-breeding. All the courses are more theoretical and on account of the large number of students in each college it is impossible to arrange for the practical work of the clinic and the laboratory.

Although the graduates of the veterinary colleges find enough employment the positions obtained are not very good, and the salaries are not sufficiently large. Many graduates continue their education in the universities and in other colleges; for example, in the medical department of the University and in the agricultural colleges. Some take special work in chemistry and receive also the degree of Doctor of Medicine, Agronomist, or Engineer Chemist. Only within recent years have the positions held by veterinarians become better owing to the success of bacteriology and the establishment of experimental stations and bacteriological laboratories. Veterinary bacteriologists can now take good positions and receive better salaries than formerly. The position of director of a veterinarian experiment station or of a bacteriologist in one is the best to be had by a veterinarian. Only after several years of practice can a veterinarian hold such a position, but students, just after graduation, are ready for several kinds of work as follows:

1. They can be employed in the Russian Imperial Army militaryas veterinarians in the cavalry, artillery, and Casakan Regiment. At present the position of the

*Abstract of paper read before the Veterinary Medical Association of the Colorado Agricultural College, April 24, 1911, Ft. Collins, Colo.

Military Veterinarian is much better than it was formerly. Now every regiment has two veterinarians, while previously there was only one. The Military Veterinarian can take a higher position in the future, as corps veterinarian and as the Head Military Veterinarian of a separate province.

2. The municipalities, large cities in Russia, employ veterinarians as Meat Inspectors and as Sanitary Veterinarian.

3. The County Board in European Russia, "Semstvo," employ veterinarians almost exclusively for the control, examination and prevention of contagious diseases. Also many counties have Veterinary Hospitals for the cure of non-contagious diseases and the care of domestic animals and live stock.

4. The Russian Imperial Government employs veterinarians on the boundaries of Turkey, Persia, and China to prevent the distribution of rinderpest.

5. The Russian Imperial Government needs many veterinarians also for the hard struggles with rinderpest which prevails in Caucasus, Turkestan and East Siberia.

6. The Russian Imperial Government needs veterinarians throughout all Russia for the inspection of cattle going from province to province or to large cities such as St. Petersburg, Charkow, Kiev, etc.

7. In Russia veterinarians are employed also in "the military guards" on the boundaries of Germany and Austro-Hungary, and China.

8. The Russian Imperial Government employs some veterinarians in the Department of Agriculture for Animal Husbandry.

9. The Department of Horse-breeding employs about two hundred veterinarians, some of which hold the position of Director of Stallion Stock.

10. The agriculture and veterinary colleges need veterinarians as inspectors and professors.

11. Russian veterinarians are employed in many places in China for the inoculation of cattle against rinderpest and for the inspection of cattle in quarantine.

12. During last year the Government of Abyssinia, Africa, asked for Russian veterinarians in place of the French veterinarians as formerly. From the above you can see that there is plenty of work to be done by Russian veterinarians. In the first place they must struggle with rinderpest, for epizootic rinderpest still exists in Russia. While it has been exterminated in almost all civilized countries in the world, it is still found in Turkey, China, and Russia. The struggle with the rinderpest requires much money and many veterinarians. However, rinderpest is exterminated in all European Russia and remains only on the borders. The chief measures against rinderpest are inoculation, preventive and curative. For preventive inoculation immune-serum and defibrinated blood taken from sick cattle is given. For curative inoculation, only serum is given.

For the preparation of immune-serum we have two experimental stations. The largest and best "antiseptic station" is located ten miles out from the city of Chita, in East Siberia. Two years ago I was employed there as assistant chief director of this station. After an absence of two years and just before coming here to the United States I visited this station and was astonished at what was accomplished in so short a time by so energetic and skilful a man as the director of this station, A. A. Dwdoo Kalof.

The station now has many beautiful buildings. It has a separate veterinary hospital, dairy farm, and three special laboratories for dairy farming; it experiments also in the raising of wild animals and the domestication of them; it has a large farm for animals for experimental purposes—rabbits, guinea pigs, arctomys; it has a special laboratory for the diagnostic investigation of glanders, and has about two hundred immune cattle,

and sent an entire carload of serum to different parts of Russia and China for the prevention of the rinderpest. This station is located on the main Siberian Railroad and many people and laymen visit it and go away very well pleased.

There is another antipestic station located at Zurnabad (Caucasus). This station investigates piropiasmosis of cattle and spirochetosis of fowls.

Unfortunately one assistant in the station, V. V. Avrorot, died from glanders inoculated by a glass test tube, containing a culture of glanders breaking and cutting his hand.

In European Russia many provinces have stations and laboratories for the preparation of anti-anthrax vaccine (Pasteur) for the diagnostic investigation and other lines of work; for example, Saratow, Samara, Simbusk, Novgorod, Voronege, Pensa Kosok, Poetava, Tovla, Oral, Ekateirnoslav, etc.

In the Cosakan province of Don there has been established a special experimental station for the investigation of glanders under the direction of Prof. Koney.

In Siberia we have a small laboratory for the investigation of the diseases of domestic animals in Tobolsk, Vladivostok. In the farthest northern point of Siberia, in the city of Jakootsk, there was recently established an experimental station for the investigation of the diseases of the domestic reindeer (*Rangifer tarandus*). The reindeer is a very valuable domestic animal in the far northern European Russia and Siberia. The life of the people of these countries is sometimes dependent upon the reindeer exclusively. In such places the reindeer is priceless as a domestic animal because they alone with the dog can endure the hardships of the icy cold, wild country. They also furnish the inhabitants of northern Russia with food, clothing, light and heat, and without them the people could not travel. Therefore the eradication of the contagious diseases of the reindeer is very important. Of the many contagious and parasitic diseases of the reindeer we know only one, anthrax. For the prevention of anthrax the Russian Imperial Government has established the experimental station for the preparation of serum and Pasteur vaccines against anthrax in the province of Afhangelsk. But the larger number of the diseases of the reindeer are not fully understood, and at present the Russian veterinarians are investigating them at the experimental stations of Ashangelsk, in northern European Russia, and of Jakootsk, in Siberia.

In the capital of Russia, St. Petersburg, we have the large main laboratory. This laboratory is situated in a new building, well equipped and costing about 200,000 roubles (\$100,000). It is divided into four departments, bacteriological, serotherapy, biological chemistry, and physiology. Eight veterinarians are permanently employed there. Every year new equipment is added to the St. Petersburg Laboratory for special advanced post-graduate courses in bacteriology and the study of the diagnostic methods.

In recent years the Russian veterinarians have published many important and interesting articles concerning investigations in bacteriology, parasitology, and serotherapy.—*American Veterinary Review*.

Medical Aphorisms.

An aphorism is described as a maxim, or a general rule. I prefer the latter definition, since in medicine very few axioms obtain. Medicine was never an exact science, and never will be, so long as the varying eddies of life and its environment are manifest. So all that a medical observer can say is that, in his experience, certain signs, symptoms and data are in the main correct; and the more observant he is, and the greater the opportunities of observation which he has enjoyed, the more likely is he to be correct in the deductions which he submits.

PTOMAINE POISONING.

By H. J. HUTCHENS, D.S.O., D.P.H. OXON., M.A.

(Continued from p. 170.)

EPIDEMICS.

If epidemics of food-poisoning be classified according to the nature of the organism concerned, they may be divided conveniently into three groups:

1. Epidemics caused by organisms belonging to the enteritidis group;
2. Epidemics due to *Bacillus botulinus*;
3. Epidemics associated with other organisms.

In the Frankenhansen epidemic Gärtner isolated from the spleen of the fatal case and also from the meat which had caused the epidemic, an organism which had not hitherto been described, and to which he gave the name *B. enteritidis*. This observation entirely altered the views then held with regard to food-poisoning, in that it showed that in some cases, at least, the disease was a true infection. In many of its characters the *B. enteritidis* (Gärtner) resembles the typhoid and colon bacilli, but shows certain differences from those organisms, and notably in its effects upon the human body. Some ten years later (1898) Durham and then de Nobelé showed that from epidemics of food-poisoning two closely related organisms had been isolated. They found that while serum obtained from any of the affected persons in a given epidemic agglutinated the organism which was the cause of the epidemic, it did not always agglutinate the bacillus from another clinically identical epidemic. This showed, therefore, that epidemics of food-poisoning might be due to either of two organisms, and that these organisms could only be distinguished from one another by resort to agglutination tests. These organisms are known respectively as *B. enteritidis* (Gärtner), which was the organism originally found, and *B. enteritidis* (Aertrycke), representing the other type, so called by an epidemic at Aertrycke in Belgium, investigated by de Nobelé.

According to Sacquépée, 80 per cent. of epidemics of food-poisoning are due to these bacilli.

The enteritidis bacilli, like the other members of the typhoid-colon group to which they belong, are short coco-bacilli, occasionally growing out into long filamentous forms, gram-negative, staining more deeply at the poles than in the centre, flagellated, motile, not liquefying gelatin and not forming spores. The group includes the various dysentery bacilli, the typhoid bacillus, the bacillus para-typhoid *a* (which causes a disease clinically indistinguishable from enteric fever) the bacilli of the enteritidis group and the numerous colon bacilli.

The various groups of intestinal bacilli can be readily differentiated by an elementary study of their biochemical reactions. The dysentery and typhoid bacilli give no gas in glucose or lactose, leave the colour of litmus milk unchanged, and form no clot. *B. para-typhoid a* gives gas in glucose, no gas in lactose, turns litmus milk permanently acid, but does not clot it. The enteritidis group gives gas in glucose, no gas in lactose, and turns milk distinctly alkaline. The colon group gives gas in glucose and in lactose, clots milk and turns it markedly acid.

Poisoning by bacilli of the enteritidis group generally takes the form of a septicæmia. The bacilli can be recovered from the blood during life and from the spleen after death. But organisms of this group give rise to a highly thermostable toxin, which will resist boiling for some little time. This is a matter of considerable practical importance, because it can be readily understood that these organisms might be present in milk, for instance, in which they would multiply and produce their toxins. If the milk were heated before being used as

food the bacilli might be destroyed, while the toxins remained, and these latter might then give rise to acute symptoms of gastro-enteritis in those who consumed it. This supposition is rendered all the more feasible by a consideration of animal experiments. Small laboratory animals fed on sterilised cultures of *B. Gärtner* or *B. Aertrycke* suffer from gastro-enteritis in the same way as though they had been fed with living cultures.

Infection with bacilli of the enteritidis group leads to the formation of agglutinins in the blood, and these are specific for the organism which was the cause of the infection. This fact is of practical importance, because in testing the blood of a person who is supposed to have suffered from food-poisoning due to organisms of this group it is obvious that blood will have to be tested as regards its agglutinating capacity, both for *B. Gärtner* and *B. Aertrycke*. It is also important to remember that co-agglutinins also appear, and unless care be taken to bear this fact in mind a Gärtner infection might be mistaken for an enteric infection when the agglutination reaction alone is relied upon, because of the considerable amount of co-agglutinin for the typhoid bacillus which is often found in a Gärtner serum.

Epidemics due to *B. Gärtner* have been recorded by Gärtner at Frankenhansen, by van Ermengen at Morseele, Brussels, and Gand, by McWeeney at Limerick, etc. In the neighbourhood of Newcastle recently, symptoms of enteritis affecting more than 100 persons were traced to the consumption of milk from a particular farm. The farm was visited, and it was found that a cow, which had recently calved, was suffering from enteritis. The cow died, and post mortem examination "revealed tuberculous pleurisy, while the kidneys and liver were completely disorganised and the fore stomach inflamed." None of the cases proved fatal. *B. Gärtner* was isolated from the stools of some of the patients, and was present in practically pure culture in the milk. Unfortunately, none of the tissues or organs of the cow could be obtained for bacteriological examination.

The *Bacillus enteritidis* (Aertrycke) has been isolated from epidemics at Aertrycke by de Nobelé, at Breslauby Kœnsche (this organism was originally described as *B. Breslaviensis*), at Düsseldorf by Trautmann, at Neunkirchen by Drigalski, etc., and it was proved to be the cause of an epidemic at Chadderton by Durham. In Newcastle in December last, twenty-one persons ate some tinned mutton; nineteen became ill with symptoms more or less severe of gastro-enteritis, and one case proved fatal. *B. Aertrycke* was isolated from the spleen and intestinal contents of the fatal case and from the mutton.

From the point of view of prophylaxis, great interest naturally attaches to the source of these organisms. So far as evidence is available it would seem that the lower animals, cattle, pigs, and horses, suffer from an acute specific infective septicæmia, accompanied by enteritis, and due to bacilli of the enteritidis group, and in the great majority of cases some history of disease in the animal whose flesh was the cause of an epidemic of food-poisoning can be obtained on careful inquiry. Van Ermengen has collected details of 112 epidemics of meat poisoning. In 103 of these epidemics the meat came from a diseased animal. In the milk epidemic already referred to, one of the cows at the farm from which the milk came was suffering from some acute disease accompanied by diarrhoea. As a rule, however, the meat has a perfectly healthy appearance, and is quite above suspicion. In van Ermengen's series, quoted above, out of the 103 epidemics in which the meat was traced to a diseased animal in only five did it show evidence of putrefactive change. Experiments have been carried out to ascertain if organisms of the enteritidis group are normally present in the healthy human and animal intestine, and some German observers have stated that these bacilli are to be found fairly frequently under such con-

ditions, Savage in a long series of careful investigations has failed altogether to confirm these results, and expresses the view that food-poisoning in man is an infection derived from animals actually suffering from disease caused by bacilli of the enteritidis group.

Organisms having the morphological and cultural characters of the enteritidis group have been obtained from numerous sources, and have received different names. In addition to the *B. enteritidis* (Gärtner) and *B. enteritidis* (Aertrycke) which have already been mentioned, the following organisms, among others, all belong to this group:—

1. An organism which had been found in association with a disease clinically resembling enteric fever in man, and known as the *bacillus paratyphoid* (beta).
2. An organism isolated from pigs suffering from hog-cholera, and known as the bacillus of hog-cholera. *B. suispestifer*, etc.

3. The *Bacillus typhimurium* (Löffler).

4. The bacillus of Danysz, found in a disease of rats.

5. *Bacillus psittacosis*, isolated by Nocard from parrots suffering from a septicemic condition, accompanied by enteritis and congestion of the internal organs.

B. Gärtner and *B. Aertrycke* cannot be distinguished on morphological or bio-chemical grounds, they can, however, be readily differentiated by agglutination reactions. Both these organisms were originally isolated from typical epidemics of food-poisoning, and have since been found in numerous similar epidemics, and neither has ever been found except in association with epidemics of food-poisoning. Clinically the symptoms produced by them are the same, and whether an epidemic is due to *B. Gärtner* or *B. Aertrycke* can only be determined by a study of the agglutination reactions of the organism isolated. From some cases, however, of disease in man clinically indistinguishable from enteric fever, an organism, *B. paratyphoid* (beta), has been isolated, which, so far as its morphological and bio-chemical reactions are concerned, is identical with *B. Aertrycke* and *B. Gärtner*.

Another important result of Bainbridge's work has been to show that the various rat viruses (*B. Danysz*, *B. typhi murium*, etc.), are bacteriologically, pure or mixed cultures of *B. Gärtner*, *B. Aertrycke*, or *B. paratyphoid* (beta). The organisms present in the different rat and mouse viruses, as well as certain other organisms, e.g. Nocard's psittacosis bacillus, had previously been regarded as closely related to Gärtner's bacillus, but their identity had not been proved. Objection has been raised to regarding the various rat and mouse viruses as identical with the food-poisoning bacilli on the ground that were they identical epidemics would have occurred among those who handled such viruses. This objection is easily met, because the handling of these viruses can be shown to have resulted in some instances in an outbreak of food-poisoning among those who handled them. In this connection the following observation of Shibayama in Japan (quoted by Sacquépée) is of interest: "In a village in the province of Tajamata a quantity of *B. typhi murium*, which was intended for use as a rat poison, was by mistake given to a horse which at the time was in perfectly sound health. The horse became ill the same day and died within a week. The carcass was buried but was subsequently dug up by a number of workmen, who ate the flesh. Within three days thirty-four of those who had eaten some of the horseflesh fell ill, and one of them died. The organism was recovered from the meat."

The so-called bacillus of hog cholera is identical with *B. Aertrycke*. This organism appears to be a secondary infection in pigs suffering from hog cholera, the true cause of the disease being one of the invisible, filtrable viruses. The identity of *B. Aertrycke* and *B. suispestifer* does not appear to be disputed, and yet very large num-

bers of carcasses of pigs which have died of hog cholera, many of them presumably being infected with *B. Aertrycke*, are annually consumed as food, and though food-poisoning is often associated with the consumption of the meat of pigs, yet the number of such epidemics is very small as compared with what might have been expected.

"BOTULISM."

Food-poisoning due to *B. botulinus* (Botulism) is a much rarer form of food-poisoning than that just considered. The symptoms are quite different from those produced by the enteritidis bacilli and chiefly affect the nervous system. The incubation period is short (12 to 24 hours) and is generally followed by some feeling of nausea, abdominal pain and constipation, but the characteristic symptoms develop later, resembling closely the symptoms due to poisoning by the vegetable alkaloids, dysphagia, dryness of the mouth, marked dilation of the pupil, paralysis of accommodation, ptosis, etc.

The disease generally lasts some weeks, but may be merely of a few hours' duration. The death-rate is high and varies from 15 to 40 per cent. of those attacked.

The symptoms of botulism are due to poisoning with the toxins of a spore-bearing bacillus, *Bacillus botulinus*, which was discovered by van Ermengen in 1895 in an epidemic of food-poisoning following a banquet at Elzevelles. The organism was isolated from the ham which gave rise to the illness, and also from the spleen and intestinal contents of one of the fatal cases. The *Bacillus botulinus* is a strict anaerobe and gives rise to an extra-cellular toxin chemically analogous to the toxins of diphtheria and tetanus. Botulism is always associated with the consumption of meat which has been preserved, and preserved under anaerobic conditions.

OTHER INFECTIONS.

Symptoms of food-poisoning sometimes follow the consumption of meat infected with organisms other than those already referred to. The nature of the infection in these cases is not definitely ascertained but would seem to be toxæmia, but whether the substance producing the symptoms is a true bacterial toxin or not is difficult to determine. Of five epidemics of food-poisoning occurring in Newcastle and the neighbourhood during the second six months of last year, three belong to this category. All of them followed the use of tinned meat. In two cases corned beef was the cause, and in one case tinned salmon.

On September 15, 1910, six persons partook of corned beef from a newly-opened 7lb. tin. A few hours (2 to 6½) later they all fell ill and the symptoms were those of a severe gastro-enteritis with collapse. The meat was bacteriologically examined and the only organism recovered was the *Staphylococcus aureus*. The meat was wet, in parts of a greenish appearance, and had a disagreeable odour. All the patients recovered. Other tins of the same brand exposed for sale in the same shop gave rise to no untoward symptoms when eaten by other customers. Ostertag refers to an epidemic of food poisoning investigated by Kuborn at Denis which was considered to be due to the *Staphylococcus aureus*.

In the other epidemic of food-poisoning following the consumption of corned beef, at least nineteen people partook of the beef and all of them suffered from a more or less severe illness. The symptoms were preceded by a short incubation period (1½ to 7 hours) and were of the nature of an acute gastro-enteritis. A proteus was isolated from the meat and was probably the cause of the illness. No deaths occurred. A portion of the meat was examined for ptomaines in London on behalf of the agents, but I am informed that no substance of that nature were present.

The third epidemic concerned five persons, a man, his wife, and his three young children, all of whom ate some

tinned salmon. One-half to three-quarters of an hour after partaking of the salmon all of them were seized with diarrhoea and vomiting and suffered from severe collapse. The woman, who was pregnant, aborted. All the patients recovered. The salmon is said to have had an "irony" taste which was so unpleasant that very little of it was eaten. The tin was sent to my laboratory, but except for a few flakes of salmon adhering to the edges it was empty. A number of these flakes were examined, and from each of them an organism absolutely indistinguishable from the *pneumococcus* was isolated in pure culture. Three other tins were bought at the same shop and the contents of all proved to be sterile.

A few epidemics of food-poisoning have been recorded in which organisms other than those mentioned above have been believed to be the cause. But enough has been said to show that while in the great majority of cases of food-poisoning the disease is due to a specific infection with organisms of the enteritis group, symptoms of gastro-enteritis, may nevertheless follow the consumption of food infected with one or other of several organisms belonging to other groups.—*The Hospital*.

Medicine as a Profession.

The choice of a profession is frequently made by a boy's father, and if he is a medical man with a good practice it has hitherto seemed only natural that he should desire his son to follow in his footsteps. It is not unreasonable, also, to assume that there is often a hereditary aptitude for medical practice, and a hereditary willingness to assume its responsibilities. For these reasons until lately a medical man in good practice almost as a matter of course brought up one of his sons to succeed him in his practice, and these hereditary followers of medicine were some of the best recruits which the profession received. We very much doubt whether this proportion of sons of medical men is now being maintained. For 20 years, during which the average number of medical students has gone down, the medical profession, especially in regard to general practice, has had to undergo many drawbacks and even hardships, and it is probable that the number of fathers, who have considered during this 20 years that in placing their children in the medical profession they were giving them the best opportunity which lay in their power of leading a useful life and securing a competence, has considerably decreased. General practitioners have seen in the many-sided development of the profession of medicine changes which necessarily have greatly affected their pecuniary returns, while they have shared in the rapidly growing expenses of daily life without in many instances being able to demand correspondingly increased fees from their clients. The decision, the very right decision, of the General Medical Council not to permit the use of unqualified assistants threw a heavy burden upon many practitioners, especially upon those who were most oppressed by the unwholesome growth of contract practice. There can be no doubt that a large number of the old-fashioned unqualified assistants were unduly employed; they were placed in positions of responsibility for which they had not received adequate training, and they gave to the public services which were not the services for which the public believed itself to be paying. While, however, the employment of unqualified assistants was abused in this manner, and, alas, in many places, the fact remains that a certain proportion of these assistants were quite properly used, while their remuneration was necessarily at a lower figure than that of assistants who, being duly qualified, had spent a large sum of money upon their medical education, the unfair growth of contract practice was directly responsible for the abuse of unqualified assistants. The public

in larger numbers, and (unfortunately) in increasingly substantial positions, began to avail itself of the contract terms which had been originally framed by the medical profession with extreme moderation, being in fact a direct outcome of the organised charity which the profession has always extended towards the public. Consequently many general practitioners found themselves confronted with the situation that part of their income was being paid to them in return for an enormous amount of work under contract that could never be remunerative—more, that could only just be made to pay when the duties were performed in a perfunctory manner and at the least possible cost. Then arose the extremely dangerous position, for medicine and for the public alike, under which thousands of persons were seen in crowded surgeries in a mechanical way, and in an incredibly short space of time, for capitation fees rarely attaining to 5s. a year and often dropping to 3d. a week. Many medical men manfully struggled in these appalling conditions to do scientific work, but some, disheartened by the conditions, discharged their responsibilities in a manner corresponding to their remuneration—they provided the kind of thing for which they were being paid. In practice of this sort the unqualified assistant was often as good a man as his principal, and when the services of persons whose names were not on the Register became illegal the troubles of the general practitioner, severe already, became accentuated, for he was not able to obtain from the various medical aid associations into whose grip he had fallen any increase of salary to compensate him for an increased outlay in the matter of professional assistance. Representations made to the medical aid associations, pointing out the abuses under which their medical officers suffered, were responded to in many cases by the introduction into the practitioners' districts of salaried medical officers to do the work of the medical aid associations, and at once the practitioners saw that, not only were their professional profits seriously diminished by the fact that persons well able to pay reasonable fees took advantage of terms of contract practice which had never been intended for them, but a grave uncertainty of tenure was introduced into professional life. A medical man could no longer bring up his son to succeed to his practice with any security, for he could no longer rely upon having a practice to which his son might succeed. In the meantime the fees for vaccination and the receipts from midwifery were decreasing for obvious reasons, while the ordinary therapeutic routine of treatment was growing more costly to him who had to supply the drugs and the dressings. All these things, acting and interacting, so altered the pecuniary position of many medical men during the last 20 years that those who have felt their full force have refrained from sending their sons to meet the same experiences. Still the supply of medical men has been kept up. The great promises of the medical life have proved sufficiently attractive to ensure able collaborators. And here we must recall the fact, often though it has been mentioned, that more than any other unit of society the members of the medical profession have inside the fence of their calling a choice of vastly varying careers. The consultant and specialist, the general practitioner, the State official, the officer, the pure pathologist—all are within our fold and have a common professional aim and code, but they lead lives that vary in every detail. Hence the medical profession has so wide an appeal that, despite the dark days through which it has recently been passing, fresh candidates for its trials and triumphs have not been wanting. We congratulate our new adjuvants upon deciding to pursue a calling that promises to all a life of the highest utility, and to some the purest possible delights through knowledge acquired and difficulties surmounted.—*The Lancet*.

A "Presidential" in Colorado.

Dr. GEO. W. DICKEY, in the course of his address at the meeting of the State Society at Fort Collins, Colorado, early in June. It is quoted here because it shows that men in the States are thinking along the same lines as some of us in Britain.

"I have no doubt that every man of any ambition has someone to whom he looks up and wishes he might become as great, as good, or as rich—that all depending upon our individual taste. Can't you remember when a boy, learning to read, you admired some one of the older boys who seemingly could do everything and did you not wish to be like him? Well, we are only learning to read in the larger sense now, for that matter, and may each one of us find some high ideal to look up to. Aspire to great things, and although you miss most of them you will still be better off for having tried. If the Governor of our great State was looking for a man to represent him at the Presidential inauguration, where would he go to look for one? Would he select one who loafed around a livery stable? Or would he choose one who has been a success in his life, either business or professional?"

You owe something to the community in which you reside. Join with the people who are boosters and help things along, not only with your money, but with some of your time. It will help you professionally to be identified with school affairs, civic societies, and some politics; for the day is coming and coming fast when we will be called upon to supervise the food supply of all the cities and towns in this nation, and we don't want the M.D.'s to have more than their just share in the work. I think we should have a member of our profession on every local board of health in the State, and when the time is ripe may we be prepared. Gentlemen, we of this State want to be in the front rank of advancement. We cannot afford to lose a chance to further our cause.

One thing I wish to compliment the members of this Society on, is the good feeling and good fellowship displayed among its members. We have no cliques nor skeletons in our closets like some other societies, and may we always be so blessed. If one of our brothers should become weak-kneed should we not furnish him with a starch bandage until such a time as he shall overcome his defect. Remember a cable is no stronger than its weakest link.

Stand together and boost. Boost for one another, boost for our profession, boost for the stock interests of the State. Show the men engaged in the stock business that their interests are our interests and will be safe in our hands. Show them that we stand at all times ready and willing to further their interests when we can do so legitimately.

Let us all become optimists. We live in the fairest State in the Union to practise in. A mile nearer heaven than those in the low altitudes. We have more sunshine and more wind, but fewer bad storms and bacteria. You ought to consider yourselves rich, heirs to the mightiest fortune in the world; manhood.

OBITUARY.

HARRY D. CHORLTON, M.R.C.V.S., Belmont, Upper Colwyn Bay. Graduated, Lond: May, 1889.

Mr. Chorlton died on Sept. 6th from melanotic sarcoma. Aged 45 years.

J. W. LITTLE, M.R.C.V.S., Abbey Town, Sillioth, Cumberland. Edin: May, 1892.

Death occurred on Sept. 8th, from chronic nephritis and cardiac failure. Aged 41 years.

Geo SMITH, v.s., Freshwater, Isle of Wight, died on Sept. 7th, from heart failure, at the age of 82 years.

Personal.

COLE.—On Sept. 13th, at Ramsgate, the wife of Mr L. Baker Cole, M.R.C.V.S., of a daughter.

The Board of Agriculture and Fisheries have appointed Messrs. George Vincent Slinn, Hedley Charles Davys Gollidge, Douglas Ainslie Hosford, Daniel Alfred Edmund Cabot to be Assistant Veterinary Inspectors (non-established) for the purposes of the Diseases of Animals Acts, 1894 to 1910; and Lewis William Wynn Lloyd, M.R.C.V.S., to be a Local Veterinary Inspector.

Messrs. NEWTON, CHAMBERS, and Co., Ltd., of Thorncliffe, Nr. Sheffield, have been awarded a Grand Prix at the Festival of the Empire for their Izal disinfectant preparations. They hold a series of highest possible awards at International exhibitions at home and abroad.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Sept. 1.

REGULAR FORCES. ARMY VETERINARY CORPS.

The undermentioned Lieuts. to be Capt.—W. H. Taylor, W. N. Rowston, V. C. Leckie. Dated Sept. 1.

A CORRECTION.

The two extracts which we reprinted last week on "Bracken poisoning" and "Warbles" were from the *Annual Reports and Proceedings under the Diseases of Animals Acts* and appeared in the Chief Veterinary Officer's Report. We regret that by inadvertence they were credited to The Board of Agriculture Journal: the pages were taken out of the covers to work from, and are then similar in appearance.—H. & W. B.

CORRESPONDENCE.

THE CAUSATION OF GENERALIZED PERITONITIS.

Sir,

A question that has been exercising me a good deal of late, and on which I would like the opinion of your correspondents, is as to the possibility of the occurrence of a generalised peritonitis without puncture or gangrene of the body wall or intestines, the bursting of an abscess, or invasion via the lymph channels of the diaphragm in a case of empyema. Infection carried by entozoa or from the bladder, uterus, inguinal canal, and umbilical cord would also be, of course, excluded. Is generalized peritonitis, for instance, possible as the result of "chill"?

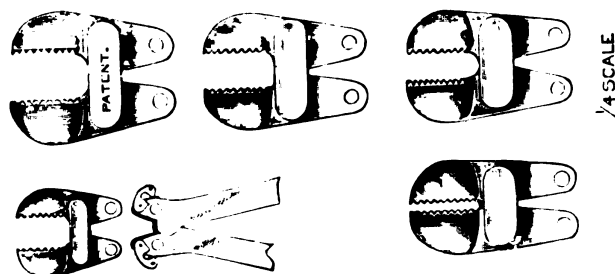
That we occasionally get a generalized peritonitis without discoverable cause is undoubted, and I would advance as a pure hypothesis, which may or may not be original, that in cases of flatulent colic with great distension of a portion of the intestine lumen, the passage of bacteria from the intestine may be rendered possible without any discoverable solution of continuity.

Capt. Vidal, R.A.M.C., has told me of a case of generalized peritonitis in a patient under his treatment preceded by flatulent colic, in which no assignable cause was discovered post-mortem. The intestinal tube was removed in its entirety from œsophagus to anus and filled with water, but no leakage could be found. The question of course is mainly of academic interest, but is in my opinion worthy of consideration.—I am, yours faithfully,

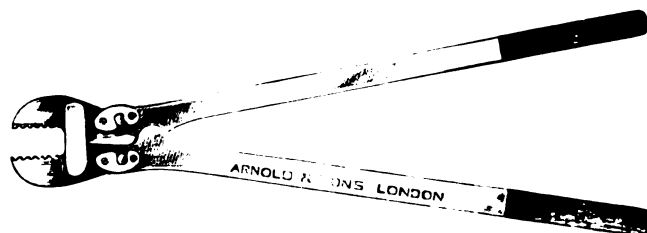
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SESSION 1911-12.

**The Winter Session will commence
on Monday, October 2nd,**

When the Chair will be taken by
LEONARD BRASSEY, Esq., M.P., and the
INTRODUCTORY ADDRESS delivered by
STEWART STOCKMAN, Esq., M.R.C.V.S.,
Chief Veterinary Officer to the Board of
Agriculture and Fisheries, at 3 p.m.

The College Calendar, with full particulars
of Fees, Prizes offered, duration of Terms, and
other information will be forwarded on applica-
tion to

RICHARD A. N. POWYS, Secretary.
July, 1911.

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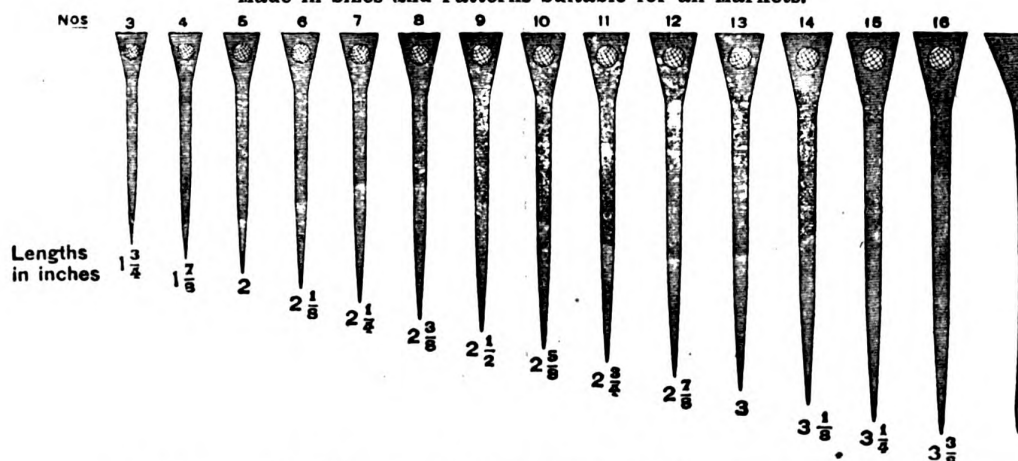
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SEPTEMBER 23, 1911.

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Southern Counties Veterinary Society.

THE next meeting of the Society will be held at The Royal Hotel, Aldershot, on Thursday next, 28th inst. The President, William Hunting, Esq., F.R.C.V.S., will take the chair at 20. p.m. sharp. Business: Routine. Discussion on Mr. Gerald Bloxsome's Paper. "Some debatable points of Unsoundness in Horses," to be opened by Mr. W. A. Della Gana, F.R.C.V.S., etc.

At the conclusion of the meeting an opportunity will be afforded the members of inspecting the Army Veterinary School, by kind permission of the General Officer Commanding in Chief, Aldershot Command, and Colonel E. H. Hazelton, P.V.O., A.C., has kindly extended an invitation to those present to partake of tea at the School.

J. ALEX. TODD, Hon. Sec.

City of Birmingham Veterinary Department

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE REGISTERED EXISTING PRACTITIONER.

A correspondent writes "Can registered practitioners use the words "veterinary surgeon" on brass plate or billheads? It was only a few years ago, when a registered man was successful in preventing the R.C.V.S. from removing his name from the list, that the position of registered practitioners under the Act became clearly understood. That position is far from satisfactory; but to enforce it strictly would be grossly unfair to the registered man.

Any man could assume the title of "veterinary surgeon" prior to the Act of 1881, which was designed to ultimately limit the title to Fellows and Members of the R.C.V.S. As in the allied cases of dentists and pharmacists, however, cognisance had to be taken of the fact that the Act, if applied universally at once, would bear hardly upon many men who had hitherto been using the title with perfect legality. Some provision had to be made for these. It was therefore decided that all unqualified men who could produce the requisite evidence of having continuously practised veterinary surgery for at least five years before the passing of the Act should, upon payment of fees, be placed upon a separate register as "Existing Practitioners." This was adequately provided for by Section 15 of the Act, which contains a sub-section stipulating that no such Registered practitioner shall be deemed to be a member of the R.C.V.S.

The men, then, proved their claims and paid their fees, believing that they were purchasing the right to work as veterinary surgeons of an inferior grade. That was the intention of the framers of the Act, but an error of omission—an evident error—rendered it nugatory. Registered men should have been exempted, as were licentiates of the Highland and Agricultural Society, from the sweeping prohibitive clauses of Section 17. They were not exempted, and the omission clearly defeats the purpose of Section 15. The only right the Registered man has under the Act is the permanent inclusion of his name in what might be made a secret list—for the Council are not obliged to publish this list of registered men, and, as the case mentioned above proved, the Council cannot remove any name from it. It was not with this idea that the registered men paid, and the Council of that day received, fees which altogether amounted to a large sum of money. The whole question is of very temporary importance, but certainly the men should rank as recognised though unqualified veterinary practitioners, and the Council should have control over them individually.

AN UNUSUAL SKIN AFFECTION IN CATTLE.

By E. WALLIS HOARE, F.R.C.V.S.

On September 2nd I was asked to investigate a peculiar skin disease affecting the limbs of a number of cattle. On attending next day I found that 15 animals were attacked.

The history was as follows: About three weeks previously a black $1\frac{1}{2}$ year old bullock was found with a swollen fore leg, the swelling being most marked in one knee joint. At the flexure of this joint deep fissures were found from which a sero-sanguineous fluid exuded. Thick crusts next formed, which gradually peeled off, leaving a raw surface with no tendency to heal.

On examining this animal I found both knees swollen, and the posterior aspect of one knee especially showed deep fissures and an appearance as if a strong biniodide of mercury blister had been applied to the part. The scaly condition also extended to the metacarpal region.

On examining the other cattle, various stages of the skin affection could be observed on them. The majority of the animals were two-year-old bullocks in prime condition, a few were three-year-olds.

The first symptom to attract attention was a swollen condition of the knees; in some of the cases careful examination showed the presence of a number of small sized pustules with a hard base and deep-seated. This was evidently the first stage. In others, the skin lesions were exactly similar to what is known as "mallenders" in horses.

Many of the cases showed deep-seated ulcers, evidently the result of the animals constantly licking the parts.

In only a few of the cases were the hind limbs involved, and the lesions in this region were slight. Some of the animals developed abscesses at the back of the knee and in front of the shoulder, evidently due to a secondary infection.

The course of the disease is slow, as the first animal attacked still shows swollen knees and a scaly condition of the posterior aspect of these joints. The herd consisted of 28 animals, and of these 26 are now affected; by a strange coincidence the two that escaped suffered for some time from a mild attack of ringworm.

Two milch cows were attacked, while a mare and a donkey showed the typical skin affection at the back of the knees, the mare also developed the affection behind the elbow.

Although in some of the cases progression was painful, the animals did not lose condition, and constitutional disturbance was absent. In some instances an entire fore leg was swollen, and the

scaly condition of the skin extended to the fetlock. In others various parts of the body showed slight lesions. In every case the primary seat of the disease was at the posterior aspect of the knee.

Some of the animals seemed to suffer from a very mild attack, and recovered in a short period of time. Others appeared to be infected with a very virulent type of the disease, as the swelling of the limb was extensive, and the ulcerations very deep seated and showed no tendency to heal.

As regards the etiology, nothing could be discovered. The pasture is good; the water supply is from a river. Into this river the affluent from a creamery flows at a little distance up the stream. The cattle during the hot weather used to stand in this stream for several hours daily. But this affluent has flowed into the stream for several years without causing any apparent damage to cattle; moreover the milch cows had not access to this stream.

The disease has spread to a cow and some young cattle on a neighbouring demesne, although there was no contact between these animals and the affected ones. Enquiry has elicited the fact that further outbreaks have occurred on farms at a distance from the primary outbreak. In various parts of the country I have found on enquiry from practitioners that similar cases have occurred, but only in a small number of animals. So far as I am aware at present, the disease has only appeared in enzootic form in the Muskerry district.

On looking up the literature of skin diseases, the only affection that corresponds to the present outbreak is "eczema of the limbs" in cattle, described by Moussu and Dollar, and said to be due to feeding on malt and potatoes. These factors are absent in the present instance.

Impetigo in cattle, described by Cadéac, also bears some points of resemblance to the cases I mention.

Why the disease should chiefly affect the posterior aspect of the knees is a point that needs elucidation, also why the fore limbs are especially the seat of the disease. I should gladly welcome any information as to the nature of the disease, probably there are practitioners who have met with similar outbreaks. Up to the present I must confess that it has completely puzzled me. (See postscript, p. 200)

TWO CASES OF SUB-SACRAL ABSCESS.

On reading a case of sub-lumbar abscess in *The Record* of 9th inst. which unfortunately ended in death, I thought the following cases might be of interest. I note the case reported was in a grey horse, the following subjects were also grey horses.

Case I. Grey gelding, age six years, was admitted to infirmary September last year, had been on military manoeuvres and was returned having his tail slightly thickened and showing several small abscesses on the under surface. He had been docked, but not recently, the stump of the tail appeared healthy, there were also two small abscesses at the root of the tail, one on each side of the anus. These were opened and discharged a thick

creamy pus which was suspicious of the botriomyces. Treatment consisted of thoroughly disinfecting the tail, the abscesses being injected with Tinct. iodine, and Pot. iodide given internally. The tail, however, began to enlarge and the pus to increase in quantity, especially in the perineal region; the animal began to show signs of systemic disturbance, the temperature began to rise and the animal's appetite was decreasing. As the source of the infection appeared to be the tail I decided to amputate it. The animal was deeply chloroformed and the tail removed as close to sacrum as possible. The stump was well syringed out with iodine on the under surface of the bone, this being the tract of infection. The amputated tail was found to be full of sinuses, pus was present in great quantity between the skin and the under surface of the vertebræ. The animal made an uninterrupted recovery after being under treatment for about six weeks.

Case II. A grey van gelding, age five years, admitted to infirmary February this year. This animal when admitted did not show any abscesses in the region of the root of the tail, but the middle of the tail was badly bruised; the dealer had evidently fastened another horse to it by means of a rope, and this was undoubtedly the cause of the infection. In a few days the tail began to swell, several incisions were made in the tail and a considerable quantity of thick pus let out. Owing to the considerable depreciation in value that would take place on amputation of the tail, I decided to leave that as my last resource. Numerous abscesses appeared on the under surface of the tail and the tendency to spread was always in an upward direction; very soon pus appeared at sides of anus and above the root of tail; by inserting the finger in one of these at side of anus, pus could be also evacuated from under the sacrum. Although iodine was fully used, we seemed quite unable to prevent fresh abscesses forming in the perineal region. Amputation was then resorted to; some difficulty occurred in checking the hæmorrhage, but apart from this the animal began to improve daily. It was under treatment for about seven weeks.

Peckham, S E.

H. D. JONES, M.R.C.V.S.

DIGESTIVE TROUBLES OF THE OX.

By JAMES GREGG, Belfast.

I am delighted to see something original on this vexed question. The article from the pen of my at one time fellow student, Mr. Hugh Begg, is worthy of him, and of the profession of which he is an active member. Mr. Begg was looked up to by his fellows in the old days, as a man of promise, and I am sure that all those who were then associated with him, now scattered over the world, will say with me that the article referred to is the best original contribution on the subject, and that our prognosis has been fully justified.

My own observations have led me to place the ordinary digestive troubles of the ox under two headings.

- (1) Those due to chills.
- (2) Those due to errors of diet.

The first is perhaps not so common in the neighbourhood of cities owing to better care and better housing of milk cattle. If these so-called chills cause a rush of blood from the superficial vessels to those of the internal organs—we may take it that continuance for a short time will produce congestion, which may go the length of producing pain and inconvenience owing to pressure (such as occurs in rheumatism.)

Different modes of treatment, to a certain extent, prove this theory to be correct. Large doses of salts usually make the animal worse, *i.e.* increase the irritation and probably cause the congestion to end in inflammation of the abomasum or some other organ—whereas prompt bleeding and the administration of heating carminatives give relief in a few hours.

In looking back to my boyhood days, I can remember a handy man who could always cure such cases without any bad after effects. He bled and gave "the five ounces," *viz.*, ginger, pepper, saltpetre, cream of tartar and sulphur. During the earlier years of my professional life I did not bleed, and I did not use such simple remedies: the result was that I was frequently disappointed. It was not until I arrived at years of discretion that I would deign to copy the handy man.

The second class is very common in the neighbourhood of cities, where forced feeding is the order of the day. It may be at once conceded that fluids pass from the rumen to the abomasum whether cud-ding goes on or not, therefore when the former is filled with highly concentrated nitrogenous food, which, owing to its sour flavour or other cause, the cow ceases to lift for re-chewing, it is reasonable to suppose that the stasis causes poisons to be generated, which have a serious effect on the nervous system. We know that the stomachs become paralysed, and that not infrequently the animal becomes helpless, and is unable to rise. Grass staggers, due to eating the nitrogenous blossoms, is an example of the same thing, though it has another set of symptoms. Purgatives, especially salts, in such cases increase the depression and hasten death. I find the following, drenched every three hours for six times, to act better than any other which has come my way:

R	Zing. Pulv.	} aa. ʒii.
	Sinapsis	
	Sodii. Chlor.	
	Sodæ. Bicarb.	
	Ac. Carbolie	} aa. ʒi.
	Cayenne	

No food, but water *ad lib.*

After making numerous post-mortems on all classes of cattle, I have long since thought so-called impaction of the third stomach a myth, and accordingly have set to myself the task of finding something harmless to neutralise the ferments which are undoubtedly generated during derangement of the digestive mechanism, as I am firmly convinced, and have ample evidence to prove, that no treatment at all is far preferable to treatment along recognised lines.

ABSTRACTS FROM FOREIGN JOURNALS.

QUARTER-ILL IN THE HORSE.

H. Levens, of Goch, who recently recorded a case of equine quarter-ill (see *Veterinary Record* of June 24th, 1911, p. 802) now reports another.

The subject was a very valuable Belgian pedigree mare, about three and a half years old. One morning this mare appeared ill after having been upon the meadow the day before in good health and spirits. Despite this she was taken to work, and an hour later she began to go lame. She had scarcely been unharnessed on this account when she fell several times, but each time was able to rise again unassisted. When Levens saw her she had become worse, and he describes her condition as follows.

She was lying upon her side, and was completely covered with sweat. She attempted to rise, but in vain, the hind quarters being completely paralysed. There was clearly recognisable emphysematous swelling in the region of the loins and croup, and the lightest pressure upon this caused the animal great pain. The tongue was cyanotic, and hung sideways from the mouth. The eyes were staring and the conjunctivæ were dark-red, almost blue. Some blood had flowed from the vagina, but the urine was clear.

The respiration was groaning, and 60 to 70 per minute; pulse 80 per minute, very weak, and occasionally intermittent; rectal temperature 105.8 F. The appetite was completely suppressed, water only being taken in small quantities.

Levens mentions the possible suspicion of azoturia in order to demonstrate its untenability. The loss of blood from the vagina, the cutaneous emphysema, the high temperature, and the cyanotic tint of the mouth and conjunctivæ were not symptoms of azoturia, but pointed to the existence of a severe infectious disease. This, Levens considered, must be quarter-ill, and he therefore diagnosed the case as such during life. Twelve hours later the mare was dead, one final symptom being a discharge of blood from both nostrils.

The diagnosis of quarter-ill was fully confirmed by an independent official investigation. The most marked post-mortem feature, besides general muscular anæmia, was the pronounced bloody infiltration of the subcutis, which, upon microscopical examination, was found to contain indisputable quarter-ill bacilli.

Quarter-ill is fairly common in Levens' district, especially in one particular portion of it, where, during the five weeks previous to writing the present report, he has encountered six cases. Four of these were in cattle and two in horses, and in each case the animal had either been pastured upon a particular infective strip of meadow land or been fed upon hay derived from it.—*Berl. Tier. Woch.*

(This case, though not so fully reported, is evidently very similar to the previous one described by the same author.—TRANSL.).

HEPATIC ABSCESS OPENING INTO THE POSTERIOR VENA CAVA.

Lhoste records (*Revue Vétérinaire*) the case of a Gascon ox which, for two years past, had shown vague symptoms of illness, the cause of which could not be diagnosed. The tuberculin test gave a negative result. The animal died very suddenly; and, as anthrax was suspected, a post-mortem examination was made with the following result.

The liver was considerably enlarged and degenerated. Its centre showed a voluminous, soft, fluctuating tumour which, when incised, gave exit to a litre (=about 1½ pints) of pus. The wall of the abscess was constituted by Glisson's capsule, which was sclerosed. At the point where the purulent collection was in contact with the vena cava, the wall of the latter was extremely thinned and presented an ulceration, the evolution of which had caused the almost complete perforation of the vessel. When the interior of the vein was examined, it was possible to demonstrate that its walls were covered by a purulent layer having the same characters as the pus in the hepatic abscess. Finally, the right auricle and a portion of the right ventricle were filled by a purulent liquid, which was also found in the axillary vein.—(*Annales de Méd. Vét.*)

"COLD ABSCESSSES" OF BONES—TWO CASES.

Cabayé records (*Revue Vétérinaire*) two noteworthy cases under this heading.

The first was in a spaniel, which showed a marked lameness of the right fore limb. Upon examination a diffuse, sensitive, warm tumefaction was found, and this being attributed to rheumatism, the animal was treated with sodium salicylate and external applications of tincture of iodine.

The treatment was without effect, and a month afterwards the animal was unable to bear weight upon the limb. Palpation revealed an osseous hypertrophy of the scapular fossæ, and pain, accompanied by a warm tumefaction, under the shoulder. A subscapular abscess was suspected, but a puncture with the trocar gave a negative result.

The animal was killed, and it was found post-mortem that the external aspect of the scapula showed a hypertrophying periosteitis, which filled the supraspinal and infraspinal fossæ. The subscapular fossa was uniformly covered with osteophytes, but here the hypertrophy was only apparent, for it was reduced to a simple osseous lamella bounding an anfractuous cavity filled with pus.

The second case was also of a dog, which received a violent contusion in the region of the left arm. All treatment was unsuccessful. The animal showed a tumefaction involving the left humerus and especially marked about the upper third of the bone. This dog, like the first, was destroyed and subjected to post-mortem examination.

This revealed the connective tissue thickened over the whole extent of the limb. The muscles of the arm were sclerosed, and their connective tissue

covering formed the anterior wall of a vast abscess which was limited posteriorly by the humerus. When this abscess was incised it was found that the purulent collection communicated with the medullary canal of the humerus by two fistulæ. The bone itself was the seat of a hypertrophying periosteitis, the osseous productions of which were about four-fifths of an inch thick.

In both cases the author explains the genesis of the abscesses as follows: In consequence of a traumatism, a hæmatoma had formed between the bone and the muscles, and this had become transformed into an abscess as a result of an endogenous infection.—*Annales de Méd. Vét.*

OFFICERS TRAINING CORPS.

DUBLIN ROYAL VETERINARY COLLEGE CONTINGENT.

Following the organisation of contingents of the Officers' Training Corps at the different Universities and Medical Schools, a contingent in connection with the Royal Veterinary College of Ireland was established during the past Session.

The first parade was taken by General Sir Neville Lyttelton, General Officer Commanding in Chief the Forces in Ireland, on May 4th, 1911, some sixty cadets being present.

During the summer term parade and other drills were held, and occasionally the contingent attended the Marlboro' Barracks for instruction in the Veterinary Hospital.

After the professional examinations were over the contingent proceeded to the Curragh Camp for a fortnight's training. The contingent brigaded with the College of Surgeons Officers Training Corps in Donnelly's Hollow, being under canvas all the time.

At the Curragh full advantage was taken of the Veterinary Hospitals, and lectures were also given upon the equipment of the veterinary hospitals in the field and the duties of the veterinary officer on the march and on active service. The Contingent also, by the kindness of the General Officer Commanding the 5th Division, on two days had mounted drill. The work during Camp was briefly as follows:

Reveille at 5 a.m.; parade for drill at 6 a.m.; breakfast 7.30 a.m.; camp inspection at 9 a.m.; parade at 9.30 a.m. and march to veterinary hospital; dinner at 1 p.m. Afternoon parades for drill, tent-pitching, etc. Lights out 10.15 p.m.

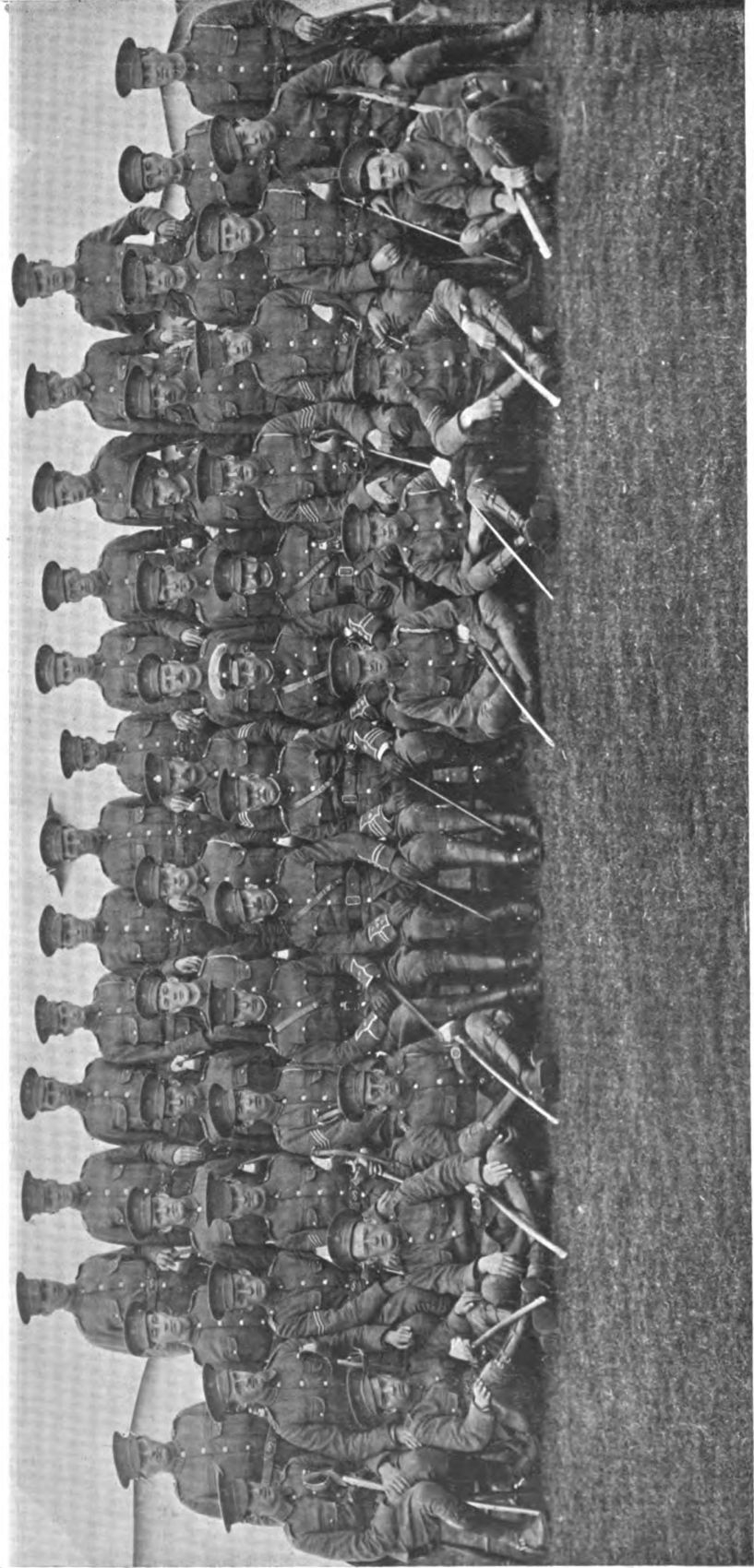
During the training the contingent was inspected by the Director-General of the Army Veterinary Service (General Pringle, C.B.); the Principal Veterinary Officer Irish Command (Lt.-Col. J. Moore), and also by Genl. Sir Neville Lyttelton, K.C.B., the General Commanding in Chief, the Forces in Ireland.

Although the contingent has been only recently formed it has created a good impression. The cadets have shown themselves very apt and keen in their work and present a good appearance on parade. The strength of the contingent it is expected will be greatly increased during the next session. The War Office has sanctioned the appointment of a Sergeant-Instructor from the Army Veterinary Corps, and it is intended that the contingent at present armed with swords will in addition receive revolvers. At present the strength of the contingent, which is officered by the staff of the College, is five officers and 50 cadets, including a staff sergeant, and four sergeants, all cadets. The officer commanding the contingent with the rank of Major is Prof. Mettam, the Principal of the College.

June
p. 18



EASTERN COUNTIES V.M.S. AT YARMOUTH, SEPT. 7TH, 1911, MR. T. G. HEATLEY, President.



OFFICERS' TRAINING CORPS, ROYAL VETERINARY COLLEGE OF IRELAND CONTINGENT.

It should be mentioned that during the recent Royal visit to Dublin, the contingent assisted in lining the streets with the Dublin University and Royal College of Surgeons Contingents Officers Training Corps, and at the Royal Review the contingent was included with the above contingents and that from the Queen's University of Belfast, in the command of the Earl of Arran, K.P. The contingent was also represented at the Windsor Review.

It may be stated that the Officers Training Corps is open to all students, and entrance into the Corps carries no obligation to enter the Regular Army. The object is to provide material for the Reserve of Officers and give training which may be of service in case of need. In the Universities there may be contingents of (a) Infantry; (b) Artillery; (c) Cavalry; (d) Engineers; (e) Medical, in connection with the Royal Army Medical Corps. The Veterinary contingent, as furnished by the students of the Royal Veterinary College of Ireland, takes its lines from the Army Veterinary Corps. Its relationship to the A.V.C. being the same as the Medical contingents to the R.A.M.C.

In future, to create a spirit of emulation between the different sections of the contingent, an intersectional challenge cup, generously promised by Mr. Charles Allen, F.R.C.V.S., will be offered for competition, the details of which have yet to be settled.

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

A meeting was held on Thursday, Sept. 7th, at the Royal Assembly Rooms, Great Yarmouth. The members and their wives were first entertained to luncheon as the guests of the President, Mr. T. G. Heatley, of Woodbridge. A group photograph was taken, after which the business meeting was held. Among those present were Messrs. W. Hunting, J. E. Kitchen, London; F. L. Gooch, Stamford; H. E. Wilkinson, Martham; J. R. Hewer, T. E. Auger, Wymondham; B. W. Bloomfield, Walton; W. Waters, Blofield; J. Barr, Acle; F. B. O. Taylor, Weston; H. P. Standley; R. B. Palmer, H. Buckingham, Norwich; W. Shipley, W. L. Little, Yarmouth; W. M. Reeman, Bury St. Edmunds; E. Margaron, Swaffham; S. Smith, senr., S. Smith, junr., Hon. Sec., Lowestoft; J. F. Thurston, Fressingfield; A. Holt, New Buckenham; J. K. Gooch, Holt; D. S. Jack, King's Lynn; J. R. Godbold, Stowmarket; E. H. Leach, Newmarket; E. W. Wright, Yoxford; M. Bray, Docking; and W. Turtill, Wickham Market.

Visitors: Messrs. F. Chambers, R. E. Leach, and H. Gooch.

Letters regretting inability to attend were received from Sir John McFadyean, Messrs. N. Almond, A. H. Santy, W. N. Jurgensen, T. E. Barcham, A. Burgon, W. E. Livock, F. Morton Wallis, J. Hammond, Senr., H. F. Downe, J. Bee, W. W. Kerr, E. A. Hudson, J. Cleveland, and W. Bower.

The minutes of the last meeting at Bury St. Edmunds were adopted, on the proposal of Mr. Sidney Smith, senr., seconded by Mr. A. Holl.

Mr. A. McTurk, Swaffham, nominated at the last meeting, was elected a member on the proposition of the President, seconded by the Hon. Sec.

The Hon. Sec. said it was reprehensible that six of the members failed to reply on the postcards he sent out asking whether they would attend. It was the more to be regretted because the President had invited them to lunch. It would greatly facilitate matters, too, if members would reply earlier. Up to Monday he had not received more than half the replies.

KIRK APPEAL FUND.

The Editor of *The Veterinary News* wrote asking whether the members would contribute to the fund he is organising to assist Mr. W. Kirk in the appeal entered by the London County Council to compel veterinary surgeons to pay for the use of the College arms.

Mr. W. HUNTING, called upon by the President, said he rose in accordance with his request, but personally he was not an admirer of practitioner's use of the College arms. Although it was very commonly done, he did not think it showed very elevated taste to have one's letter paper decorated with a number of crests. But in a case where one of their members had been attacked and had the pluck to defend himself, he thought it would be rather mean to leave him to do so alone. He had already subscribed to the fund with the Central Veterinary Society. He hoped veterinary surgeons as individuals would support Mr. Woodruff in his object.

Mr. SHIPLEY said that as a matter of principle he thought it very bad form indeed to use the College arms though he realised that Mr. Kirk might be in a difficult position. If veterinary surgeons wanted to use crests of any kind in their business or for their private purposes they should have their own and pay for them. It was a matter in which personally he took very little interest.

Mr. H. BUCKINGHAM, as a veterinary surgeon who used the College crest, said he saw no reason why they should not use it. It distinguished them from the quacks. It had been used for many years, but independently of that, one of their fellow-practitioners having got into this fix, they ought one and all to help him. One member should not have to bear the whole brunt, and they could conscientiously give their mite towards it. He therefore advocated a contribution from the Society.

The PRESIDENT said he thought it was purely a question for the individual whether he thought this action right. He did not see how they could ask the Society to do anything, but they could give as individuals. If a man had a strong feeling on the subject he should subscribe.

Mr. BUCKINGHAM said he would test the feeling of the members by proposing that the Society contribute two guineas.

There being no seconder, this proposal fell to the ground, and no action was taken.

NATIONAL VETERINARY ASSOCIATION.

A letter was read from Mr. A. Gofton (Edinburgh) as to the amendment of the rules of the National Association. The President said that at their last meeting they had approved the scheme, and he therefore proposed that their Society affiliate with the National.

Mr. T. E. AUGER seconded, and this was carried.

The Hon. Sec. called attention to the list of instruments printed on the agenda papers for the information of members. The tooth clippers and forceps had been most in demand. Some of the instruments needed repair, and he asked for instructions.

Mr. W. SHIPLEY said this should be left to the Committee with power to order any repairs. He moved accordingly.

The PRESIDENT seconded, and this was carried.

Mr. SHIPLEY proposed that the annual meeting be held at Norwich.

Mr. SYDNEY SMITH, SEN., seconded, and this was carried.

MILK FEVER.

The PRESIDENT said he would like to mention as a point of interest to anyone working out the etiology of milk fever, that while in 1908, 1909, and 1910 during the months of June, July, and August he averaged 39 cases

of milk fever, this year, he had only had one case. The past three summers were wet and this year dry, and he wondered if other members had had the same experience. It showed that hot weather was not a producing cause.

Mr. W. L. LITTLE said he thought it depended upon the quantity of grass.

The PRESIDENT, in reply to a question, said the herds would average 30 cows.

Mr. WRIGHT said he had had just as many cases, and he found the number to be the same in hot weather as in cold. He had some quite lately.

Mr. WILKINSON said he had a herd of 40 Jerseys, and during the past two years had cleared out all the tuberculous cows. This summer there had not been one case of milk fever. Previously it used to occur constantly. The cows were calving all the year round.

Mr. HOLL said he had three dairies of between 50 and 60 cows, and he used to have 15 or 16 cases each year, but this year there had been only one case in the three herds. There had been this year nothing like the milk fever in Norfolk that they used to have.

Mr. BLOOMSFIELD said that in his district there were a few cases in June and none since.

Mr. T. E. AUGER said his experience was the same as the President's and he had had very few cases indeed.

The PRESIDENT said there was certainly a weight of evidence that there was very little milk fever this summer, and the reason must be the great scarcity of grass feed.

POST-MORTEM SPECIMEN.

Mr. F. B. O. TAYLOR exhibited a calculus taken from a carriage horse. He got a wire to take a calculus from the urethra of a horse, and also to bring his gun. He found the calculus lodged in the perineal region, where it could easily be felt. He was asked to take it away immediately or shoot the horse. As the horse was 20 years old and had had paralysis of the neck of the bladder for 18 months and was practically useless for driving, he said the best thing was to shoot it. Prof. Hobday had taken one calculus out of its bladder, and the late Mr. Fred. Low had taken another from its urethra. The present calculus was just below the anus. There was a good deal of urethritis, so that if the horse had been operated upon it would not have been much good.

The PRESIDENT said the calculus was a very pretty specimen, and it was an interesting case. There must have been considerable dilatation of the urethra for it to have got into the perineal region.

THE OUTLINES OF VACCINE AND SERUM THERAPY AS APPLIED IN VETERINARY PRACTICE.

By A. L. SHEATHER, M.R.C.V.S., London.

Mr. President and Gentlemen,—When, in the early part of this year, I received an invitation from one of your members to read a paper before this Society upon vaccine and serum therapy, I must admit that the difficulties which the subject presented seemed almost insurmountable. It was not a case of finding sufficient to say but one of deciding what not to say. A few moments consideration convinced me that only the very sketchiest of outlines could be given if a comprehensive survey of the subject were to be attempted, and that debatable points and theories must be left severely alone.

I have therefore confined myself to a few considerations of a general nature regarding the various types of immunity, and to a brief description of some of the measures adopted in the production of it, making such choice as may illustrate as many as possible of the various principles involved.

In nature such a thing as absolute immunity is quite exceptional. By absolute immunity is meant such a degree of resistance that an animal cannot be infected with a particular disease under any circumstances whatever. When, therefore, one speaks of an animal being immune to a particular disease one generally means that it is capable of resisting any infection that it may meet under natural conditions. Immunity is therefore relative only in the great majority of cases. There are numerous examples of animals that one would speak of as being immune, but which can be infected experimentally. Such a case is the horse, which though never naturally attacked with swine erysipelas may be experimentally infected.

Classifying immunity upon the broadest basis possible, one may divide it into two great types—natural and acquired.

Natural immunity I have just referred to. It may be defined as an inherent insusceptibility on the part of an animal to a particular disease under natural circumstances. Since neither sera nor vaccines play any part in its production we may dismiss it.

Acquired immunity. This immunity is not all of one kind, and further sub-division is necessary. (I.) First there is such a thing as acquired natural immunity, by which I mean an insusceptibility on the part of an animal towards a particular disease which is possessed by that animal for a part of its life only, the immunity being acquired without the necessity either of the animal passing successfully through a natural attack, or of its being treated in any way by man. As such an immunity I may instance the case of black-quarter in bovines. It is well known that this disease is very fatal to young stock, but that cases are fewer among animals of 1½-2 years of age, and that they are distinctly rare in animals over three years of age. No definite explanation can be given to account for this immunity, though more than one theory has been advanced.

II. The second type of acquired immunity is that which an animal possesses by virtue of its having passed through a natural attack of the disease in question. Examples of this are numerous. There is one example of immunity acquired in a manner that is a modification of this which is perhaps worthy of mention. I refer to the immunity that is in some cases produced in young animals owing to the mother passing through an attack of the disease while pregnant. Such a case is that of Malta fever. The goat is particularly susceptible to Malta fever, but it has been found that the progeny of infected females possess a high degree of immunity, although they have never actually had the disease.

(III.) The third type of acquired immunity is that which results from man's intervention. Here again the immunity is not all of one kind.

Two separate and distinct types of immunity may be conferred upon animals by man. Special names have been given to these types. They are known as active and passive immunity. Generally speaking, active immunity is that which is produced by vaccines, or in some cases vaccines associated with protective sera, and passive immunity results from the use of sera alone. The main idea of vaccination is to imitate nature in producing immunity by causing the animal to pass through an attack of the disease in question, but to modify nature's methods in such ways that a greater degree of safety may be obtained without sacrificing the strength of the immunity.

The special features of active immunity are as follows. The essence of the immunity is that it results from a reaction on the part of the animal's own tissues, the immunity being, broadly speaking, proportional to the reaction. In other words, the animal prepares its own protective substances, whatever they may be. The second characteristic is a natural corollary to this, and it is that some time must always elapse before the

immunity reaches its maximum. That is to say, no animal is ever immune immediately after a vaccine has been administered. Thirdly, the immunity, once established, is lasting. In some cases the immunity may last for years. In others it is a matter of months. Finally, although in devising methods of vaccination every effort is made to secure safety without sacrificing effectiveness, there must, in the nature of things, always be some risk to the animal vaccinated.

Although I intend to deal with active immunity before passing on to passive immunity, I think it well to give here for the sake of contrast the principal features that characterise passive immunity. As I have already mentioned, passive immunity is set up by the use of protective sera, and herein lies the explanation of the principal features exhibited by such immunity.

First, the immunity resulting from the use of a protective serum is set up without any reaction on the part of the tissues of the animal protected. The protective materials are actually present in the dose of serum administered, the animal being simply a passive receiver.

The second feature is that, as one would naturally expect, immunity is conferred at once. That is to say, from the moment the animal receives the dose of serum it is protected.

Thirdly, the immunity established is comparatively fleeting. It commences to decline from the outset and has generally entirely disappeared within a few weeks, and in some instances ceases even to be serviceable after a matter of days.

The fourth characteristic is that the production of passive immunity in an animal is without danger. This statement, in view of more recent work, is perhaps a little too positive. I will indicate later circumstances under which danger may arise.

ACTIVE IMMUNITY.

I will now deal briefly with the methods adopted in the production of active immunity. As I have already stated, in the production of active immunity an attempt is made to imitate nature while lessening its risks. For this reason various modifications of the natural virus have been resorted to in the preparation of the vaccines. The following are the principal modifications of the natural virus that are resorted to in the preparation of vaccines:

1. The fully virulent virus administered in minimal doses.
2. The administration of the virus deprived of some of its virulence.
3. The administration of dead virus.
4. The administration of bacterial products.
5. The administration of either fully virulent or attenuated virus associated with a protective serum.

The administration of fully virulent virus in minimal doses.

An example of this method of vaccinating is that devised by the late Prof. Arloing in conjunction with Cornevin for the protection of animals against black-quarter or quarter-ill.

The method of preparation of the vaccines, for there are two, known as 1st and 2nd, is as follows: A sheep is killed experimentally with black-quarter. Immediately after its death the muscular lesion is exposed, all precautions being taken to prevent accidental contamination and the affected muscles are cut out. These are then cut into strips about three inches long and one wide, and dried at a temperature below that of the body until they become quite brittle and can be broken in the fingers. In this condition the muscle may be kept for an almost indefinite period.

The pieces of muscle are then ground up in a sterile mill and reduced to powder. This powder is mixed

with sterile water until it has the consistency of a stiff paste. The paste so prepared is spread out in layers about $\frac{1}{4}$ inch thick upon glass plates which are then heated. The temperature to which the plates are raised depends upon whether one is preparing the 1st or weaker vaccine, or the 2nd.

For the first vaccine the temperature must not be allowed to fall below 100° C., and for the 2nd vaccine it must not fall below 90° C. In both cases the paste is submitted to this temperature for seven hours. At the end of this time the paste is found to have been converted into a hard cake or crust. This cake is again reduced to a powder by grinding in a mill. The resulting powder is the vaccine.

It was at one time supposed that this method of vaccination involved the use of a virus which had been deprived of part of its virulence, that is to say, an attenuated virus. This, however, is known now to be an incorrect view. The bacillus of black-quarter is a sporulating organism, that is, it is capable of modifying itself so as to be able to resist unfavourable circumstances while maintaining its vitality. No evidence has been adduced to show that spores can be deprived of their virulence.

During the preliminary drying of the muscular tissue any of the organisms in the vegetable or non-resistant condition either become spores or are killed, so that when drying is complete only spores remain. In the preparation of the 1st vaccine the period of heating for seven hours at 100 to 104° C. suffices to kill off a proportion of the spores. Similarly in the case of the 2nd vaccine a proportion of the spores are killed, but as the temperature is lower a greater number survive. The first vaccine is preparatory, and the second is the principal protecting agent.

Method of application of the Vaccine.

The dose for a young bovine animal is 1 centigramme of the muscle powder both of the first and second vaccines. When required for use the muscle powder is mixed with a suitable quantity of sterile water and injected under the skin. The injection must be made at some place where there is only a small amount of loose subcutaneous tissue, and the under surface of the tail about six inches from the tip is the place recommended.

After an interval of 8 to 10 days the 2nd vaccine is introduced in a similar way just above or below the spot where the first vaccine was introduced. Immunity reaches its maximum about a fortnight after the injection of the 2nd vaccine, and from that time very slowly declines. It is said that a serviceable immunity persists for about 9 months to a year.

Risks of the Method.

As I have already said, the production of active immunity always involves a risk to the animal vaccinated, and this method of vaccination is no exception to the rule.

It cannot be denied that there is a risk attaching to this method of vaccination—a risk that it may actually set up the disease in the animal vaccinated. Taking the percentage of accidents of this sort over a very large number of animals, it is found to be very low, about 1%. But unfortunately, for some undiscovered reason, these accidents are not evenly distributed. A number of animals may die at one place and none elsewhere. There is no doubt that a very valuable degree of immunity is conferred by the use of the method.

Other plans have been adopted in the preparation of vaccines against this disease, but of these I do not propose to speak.

The Administration of Bacteria deprived of part of their virulence.

There are various ways of varying the virulence of pathogenic bacteria, the variation being either in the

direction of an increase or a decrease. The processes whereby the virulence of an organism may be increased need not concern us, as such organisms would hardly be suitable as vaccine materials.

With regard to reducing the virulence, or attenuating, as it is called, a variety of plans may be adopted. Generally speaking an organism loses some, and eventually, in certain cases, all its virulence if it be submitted to an unfavourable influence of some sort. For example, the bacillus of fowl cholera may be attenuated by cultivation for long periods on artificial media without renewal. It is interesting to note that it was against fowl cholera that Pasteur made his first vaccine. He found that cultures of the bacillus kept in the laboratory gradually lost their virulence unless the growth was transplanted to fresh tubes pretty frequently. This fact suggested to him the possibility of protecting poultry against the disease by using such weakened virus. This proved to be the case. The method was never extensively used in practice, on the score of expense, but it was a successful method, and consequently of great historical interest.

In the second place the virulence of organisms may be reduced by cultivating them upon artificial media under unsuitable conditions of temperature. To this I shall return later.

Thirdly, attenuation may be produced in some instances by what is known as "passage." That is to say a series of animals other than those naturally attacked are inoculated one from the other. It often happens that in this way the virulence of the organism is increased for the animals comprising the series, but decreased for the species naturally attacked.

A vaccine of this kind was prepared by Pasteur against swine erysipelas. It was never extensively practised owing to its uncertainty, but he showed that if a series of rabbits were inoculated one from the other with the bacillus of swine erysipelas the virulence of the organism was increased for the rabbit but decreased for the pig.

A fourth plan that may be adopted to attenuate an organism is to grow it upon an unsuitable medium or a medium to which an antiseptic has been added. This plan has not been widely adopted, and need not concern us.

As an example for a vaccine prepared from an attenuated virus, I propose to describe that devised for the protection of animals against anthrax. In this instance attenuation is achieved by growing the bacillus at a temperature other than the optimum. Here, again, it was Pasteur who originated the method.

The bacillus of anthrax is one which under certain definite conditions is capable of forming spores. Not the least important of these conditions is the temperature. Pasteur found that while growth still takes place there is no sporulation above a temperature of 42 centigrade. He also found that the bacillus when grown at this temperature gradually undergoes attenuation, and finally after about a month dies, virulence disappearing entirely before growth ceases.

It is a remarkable fact that the attenuation so produced is impressed practically indelibly upon the bacillus. That is to say, supposing subcultures be made even under the most favourable circumstances, using as seed material a growth that has been incubated for a fortnight at 42.5 C., these subcultures, and all succeeding generations, preserve the same degree of attenuation as the original one. This forms the basis of Pasteur's anti-anthrax vaccination.

As in the case of the Lyons method of vaccination against black-quarter two vaccines are used. Both vaccines are broth cultures of the bacillus of anthrax. The first vaccine is a culture which is so far deprived of its virulence that in minute doses it is incapable of killing

guinea-pigs, whereas it will kill mice. It is understood that it is not necessary to make each vaccine by cultivating the bacillus in broth at 42.5 C. Once the degree of attenuation has been obtained the subcultures may be incubated at the optimum temperature without any restoration of virulence. Pasteur found that the necessary degree of attenuation was reached when the broth cultures had been incubated at 42.5 for about three weeks. Subcultures made from such primary cultures constitute the first vaccine.

The second vaccine is prepared in a precisely similar way, save that the original culture is incubated for 10-12 days only. By this time the virulence has become altered so that a minute dose will kill a guinea-pig, but will either not affect a rabbit or make it ill only without killing it.

The dose of each vaccine is $\frac{1}{4}$ cc. for an ox, and $\frac{1}{2}$ cc. for a sheep. Vaccination may be practised anywhere, the dose being introduced subcutaneously. The side of the neck, or just behind the shoulder are suitable places. Between the two doses an interval of 8-10 days must elapse.

In all cases where two vaccines are used—a first which confers but little immunity, and a second or immunising one—there must be an interval between the two administrations, because after the first dose the resistance of the animal to the particular disease is decreased, and it is in a condition of increased susceptibility. The introduction of the second dose too soon after the first might easily lead to a fatal infection. This period of decreased resistance is what is known as the negative phase of vaccination. What has been said with regard to the value of the black-quarter vaccination applies practically word for word to Pasteur's anthrax vaccine.

This method of vaccination has not been used extensively in practice in this country because in any outbreak of anthrax it is exceptional for more than one or two animals to die, and it would be in the highest degree unwise to apply the method under these circumstances, since it increases the chance of infecting the place should an animal succumb to it.

A third modification of virus that has been used as a vaccine is one that has been killed outright. This plan has not been extensively practised in veterinary medicine, although a few experiments have been made in connection with some of the suppurative diseases. I do not, therefore, propose to say anything regarding this method.

The fourth method of producing an active immunity is the introduction of bacterial products alone. This method is that applied principally in the production of anti-toxic as apart from anti-bacterial protective sera, and I shall return to it later.

There is one more method of conferring active immunity which has been practised extensively with various modifications in different parts of the world. This method is the combination of either the virulent or attenuated virus with a protective serum. Such methods are known as mixed methods. As an example of the use of the fully virulent virus associated with a protective serum may be mentioned the plan adopted in the preliminary immunisation of animals destined to supply anti-rinderpest serum. The method has been variously modified, but in the main it consists in giving a dose of fully virulent rinderpest blood and a suitable dose of protective serum.

The main disadvantage of mixed methods of protection is the difficulty of striking the right proportion between the vaccine and the serum. Should the dose of serum be too large, or the vaccine be administered too soon after the serum, the immunity set up by the serum is likely to be sufficiently strong to render the vaccine ineffectual, and consequently there will be no production

of immunity. On the other hand, if the dose be too small, there is a possibility of the vaccine setting up a fatal attack.

PASSIVE IMMUNITY.

As I have already mentioned, passive immunity is characterised by the following features. It is set up in an animal without there being any reaction on the part of the tissues of the animal receiving the serum. Secondly, it is acquired immediately, and thus in certain cases such immunity is valuable in arresting an outbreak of disease. It is of short duration. It involves no risk to the animal immunised save in one respect which I will mention briefly.

Protective sera are, broadly speaking, of two kinds, anti-bacterial and anti-toxic. In certain bacterial diseases it is not actually known how the bacteria produce their effects. In these cases no toxin can be demonstrated. One therefore calls the protective sera in these cases anti-bacterial. In other diseases, *e.g.*, tetanus, the symptoms are known to be due to a specific toxin elaborated by the bacillus of tetanus. In such a case the protective serum is termed an anti-toxic serum.

Anti-anthrax serum is an example of an anti-bacterial serum, and is prepared as follows. The first step is to confer active immunity against anthrax upon the animal that is destined to provide the serum. This may be done as already described, using the Pasteur vaccines. When active immunity is fully established the animal is given—generally by subcutaneous inoculation—gradually increasing doses of fully virulent anthrax cultures, until it can stand enormous doses. The animal is then rested for a time, generally a fortnight or three weeks, to enable it to destroy the organisms inoculated into it. The active immunity of the serum producer has now become hyper-immunity, and its serum, which immediately after the original vaccination possessed no protective or curative powers, now possesses these to a high degree. The activity of an anti-anthrax serum can never be taken for granted. It has always to be tested experimentally to ascertain its value. I will not trouble you with the technique of this testing.

When the serum is shown to be efficient a quantity of blood is drawn from the animal, generally from the jugular, with all precautions to ensure sterility. The blood is allowed to coagulate and express its serum, which is then drawn off, and after the addition of a suitable antiseptic to prevent subsequent contamination, is dispensed as required.

Value of Anti-Anthrax Serum.

A good serum should confer passive immunity on an ox in doses of 10 c.c. In this country there is not much demand for an anti-anthrax serum because the average number of deaths per outbreak is less than two. It has also very great curative powers, and provided an animal be not in the last stages and a large supply of serum be at hand a cure may often be effected.

In cases where the source of infection is persistent anti-anthrax serum is of little or no value, as it would be necessary to repeat the dose every ten days or so, and the expense would prohibit this.

Anti-toxin Sera.

The anti-toxic serum in most common use in veterinary practice is anti-tetanic serum.

Whereas no toxin can be demonstrated in broth cultures of the anthrax bacillus that have been freed from all organisms of filtration, filtered cultures of the tetanus bacillus can be shown to be highly toxic.

The method of preparing anti-tetanic serum resembles that of anti-anthrax serum save that filtered cultures of the bacillus are used instead of unfiltered ones. To commence with the dose is very small, but it is gradually increased until the serum produced will stand enormous

doses of highly virulent material. A good serum will confer passive immunity in doses of 10 c.c. The immunity rapidly declines, and after about three weeks has entirely disappeared.

Contrary to what is found in the case of anti-anthrax serum, anti-tetanic serum is of no value when once symptoms have made their appearance.

The anti-toxic power of this serum can be measured quantitatively against known quantities of toxic material.

A brief explanation of the action of anti-tetanic toxin may not be out of place. The explanation is that put forward by the celebrated German scientist Ehrlich.

In Ehrlich's view the toxin produced by the tetanus bacillus has a special affinity for certain groups of elements contained in the protein molecules of the nerve cells. By union of the toxin with these groups the physiology of the nerve cells is upset and symptoms are produced. In the animal which is to provide the serum the administration of gradually increasing doses of toxin stimulates the nerve cells, or in some way acts upon them to produce a large number of these particular groups in excess of the normal. These groups, according to Ehrlich, become separated from the parent cell and are passed into the circulation.

It is upon these groups in the protective serum that the immunising power of that serum depends. The injection of a dose of serum into an animal infected with the tetanus bacillus thus introduces into its body these groups, or receptors, as they are called. When the toxin produced by the bacilli meets these receptors union at once takes place, and thus the toxin is prevented from acting upon the nerve cells.

This view of the action of anti-toxic sera also explains why the use of anti-tetanic serum is of no avail after symptoms have appeared, for a necessary precursor of symptoms is that the toxin shall have united with the receptors of the nerve cells, and once thus united the toxin produces its effects, and the receptors in the antitoxic serum cannot again detach it.

I have said that no risk is run by an animal through the injection into it of a protective serum save one. What that one risk is I can indicate but in the briefest manner possible. This risk is the production of the condition known as anaphylaxis, or serum disease. This subject is engrossing the attention of investigators in many laboratories in Europe at the present time, and a wealth of experimental facts and details is being gradually accumulated regarding it. It may be considered quite apart from anti-toxic or anti-bacterial sera, since the condition may be set up equally well by normal and by what I may call specific sera.

Essentially anaphylaxis is the condition which is sometimes produced in an animal by a dose of serum derived from an animal of another species followed after a certain interval by a second dose of the same serum.

The symptoms of this condition are striking. In small laboratory animals the second dose of a heterologous serum may be followed by almost instant death, or there may be cramp-like convulsions followed by death within a few minutes. Accidents of this sort have been observed in Belgium and Holland where cattle have received successive doses of anti-anthrax serum derived from horses. No symptoms are produced unless a certain time, which in some experimental cases amounts only to days, has elapsed between the two doses. But once that period has elapsed accidents may occur when months pass before the second dose is given.

These effects are not produced by homologous sera, that is to say when the serum injected is derived from the same species as the animal receiving the injection.

This brings me to the end of what I have called the "Outlines of vaccine and serum therapy as applied in veterinary practice." I am only too conscious of the sketchiness of the outlines, and of the many omissions,

but, as I said at the commencement of my paper, more than this would not be possible without taxing your patience and even your endurance.

The PRESIDENT said they were all very much obliged to Mr. Sheather for his paper, and it was a matter of regret to him that he did not understand more of this important subject.

Mr. SHIPLEY said that their members were under obligation to Mr. Sheather for coming to Yarmouth and giving them such an able paper. So far as he could understand and appreciate the paper it was quite impossible that they should discuss it, but it had been a great educational treat. He begged to propose a hearty vote of thanks to Mr. Sheather for the time and trouble he had given to this paper. It would be of service to all older practitioners in the country who had not the advantage of hearing lectures in bacteriology which the younger members of the profession enjoyed. Personally he was much obliged to Mr. Sheather for the good response he made to his request for a paper.

Mr. H. P. STANDLEY seconded the vote, said he also desired to congratulate Mr. Sheather on the very excellent paper he had given, which everyone of them must regard as a treat. It was not a matter they could discuss because very few of them knew much about the subject, although it was an important one. To those who had no opportunity of attending post-graduate courses, the whole of what Mr. Sheather had explained was perfectly new, though he had probably touched only the fringe of the subject. He would like to hear a good deal more, and he hoped that Mr. Sheather would be able to come down again and go into the matter further.

The HON. SEC., supporting the vote of thanks, said he would like to associate himself with Mr. Shipley's remarks because he knew Mr. Sheather had been very busy. It was therefore exceedingly kind of him to hold to his promise. He had given them a most interesting paper which must have occupied a good deal of his leisure, when in the summer weather he would far rather have been outside.

Mr. E. WRIGHT said a good deal had been heard of this anti-toxin and anti-tetanic serum. A few years ago a man was shot not far from his stables, and was under his supervision for several days. He tried to keep people from visiting the man in order that he might be quiet, and used to see him himself morning, noon, and night. One morning he noticed he was suffering from tetanus, and immediately informed the doctor, who came at once and injected anti-tetanic serum into his buttocks. In about twenty-four hours the man could use his jaws and began to articulate. The doctor injected the serum a second time, and the man was very much better, but on the third day convulsions or blood poisoning set in and carried him off. He thought at the time great credit was due to the doctor. Had the man been kept quiet he believed that he would have been alive still. This occurred about twelve years ago.

Mr. BLOOMFIELD said that as one who seldom attended the meetings he wished to say how much he appreciated the paper. It was on a subject that was coming to the front more and more. Whenever any one like Mr. Sheather came amongst them every member would be glad to be present.

Mr. F. L. GOOCH said he understood Mr. Sheather to say the period of immunisation after the injection of anti-tetanic toxin was three weeks. He believed it was sent down from the Pasteur Institute to give six weeks immunity with a 10 c.c. dose. He thought there was a future for anti-tetanic toxin as a preventive measure. It might be preventive or curative, but he considered it was impossible to cure when the nerve cells became infected. He knew a stable that had been infected with tetanus for years. If any horse suffering from a wound was put into this stable it had always been subject to

tetanus. During the past month he had to treat an animal there, and it was the first treated successfully for four years, and at the present time was free from tetanus.

The vote of thanks was passed amid applause.

Mr. SHEATHER, in reply, said he owed the members a debt of thanks for listening to him. His object was to try to put before them a general survey of the subject. He thanked them for inviting him, and for giving him such kind attention. With regard to Mr. Smith's remarks, he did not want to make out that his paper had cost him any greater effort, but he wrote it because he understood from his friend Prof. Woodruff that the papers read before the Society were handed over for publication. Otherwise he would have spoken extempore. With regard to Mr. Gooch's statement about immunity, the various sera varied in strength dependent upon the length of treatment the immunising animal underwent while under preparation for serum. If the Pasteur Institute could prepare serum that would confer immunity for six weeks he congratulated them. As he had been in the laboratory since he qualified, he had not had much opportunity of seeing anti-tetanic serum used. He had heard it stated in practice that where there was a wound likely to be a long time healing, the dose should be repeated in a fortnight. He could only look upon cases from the laboratory point of view, which was entirely different from what they met in practice.

Mr. W. L. LITTLE proposed a vote of thanks to the President for the able manner in which he had occupied the chair. He had also given them an excellent repast and treated them in every way extremely well. They had never had a President who carried out the duties in a more satisfactory manner.

Mr. H. BUCKINGHAM seconded, and the motion was carried unanimously.

The PRESIDENT said he was obliged to Mr. Little for his very kind remarks. He felt very proud to have occupied the chair when Mr. Sheather gave them this paper, because it did them good now and again to be reminded that they did not know quite so much as they thought. He thanked them all for attending.

The meeting then ended.

SYDNEY SMITH, JUN., *Hon. Sec.*

NORTH WALES VETERINARY SOCIETY.

The annual meeting was held at "The Sportsman" Hotel, Carnarvon, on Tuesday, Sept. 12th, at 2 p.m. The following members were present; Messrs. R. S. Rowlands, President; R. Jones, Treasurer; Griffiths Evans, M.D.; L. W. Wynn Lloyd, Hon. Sec. Visitors: Messrs. J. O. Howard Rees, and W. Jones Parry.

Apologies for inability to attend were received from Messrs. J. H. Wynne, C. W. Cartwright, and Trevor Williams.

A communication was read from Mr. G. Jones Roberts tendering his resignation.

The HON. SEC. proposed that he be asked to re-consider his decision. Mr. Roberts had been a valuable member of the Society, and was an asset they could ill afford to lose.

Dr. EVANS seconded the proposition, which was carried unanimously.

THE LATE PROF. WILLIAMS.

The HON. TREASURER said this Society in common with many others, suffered a great loss by the lamented death of Prof. Williams, and he proposed a vote of condolence with the family, and that the Hon. Sec. send a letter to Mrs. Williams to express the Society's regret.

The HON. SEC. seconded. Many of us had in him a dear friend, but the whole profession and this Society in particular, lost a valuable member by the death of

Prof. Williams. Carried in silence, the members standing.

The PRESIDENT stated that he and the Hon. Sec. attended the funeral and purchased a wreath in the name of the Society. The members approved.

A letter was read from Prof. Woodruff, as Secretary of the fund which is being raised to defend the action of the L.C.C. against Mr. Kirk, asking the Society for support.

Dr. EVANS said he was not entirely in sympathy with this matter. He regarded the display of the College crest on note headings and labels as vulgar.

The HON. SEC. agreed to an extent, but pointed out that this was to be regarded as a test case, and whether we used the crest or not we should fight for the right to use it.

The HON. TREASURER proposed, and the President seconded, that a sum of three guineas be subscribed to this fund. Carried.

A letter was read from Mr. Trevor Williams suggesting that the Society purchase tooth shears for the use of members.

It was decided to defer the matter until the next meeting, the Hon. Sec., in the meantime, to ascertain the price of the instrument.

Dr. EVANS asked why subscribers to the entertainment fund of the National received no intimation of the meeting.

The HON. SEC. thought this was a real grievance which should be obviated in future. He had mentioned the matter at a meeting of the Provisional Committee, and was told by an officer of the National that the North Wales members would be written to and asked to become members of the National.

The HON. TREASURER said that only members of the National received notification of the meetings. The officers of the Association would assume that non-members would see the notices in the veterinary press.

The HON. TREASURER read the balance sheet and also the one relating to the entertainment fund. He asked what should be done with the surplus in hand, and suggested that the bulk of it go to the International Veterinary Conference fund. It was decided to consult the subscribers.

ELECTION OF OFFICERS.

The HON. SEC. proposed that in the event of Mr. Jones Roberts reconsidering and withdrawing his resignation, he be elected President. The retiring President seconded. Carried.

Vice-President.—Mr. TREVOR WILLIAMS was proposed by the Hon. Sec., seconded by the Hon. Treasurer, and carried.

Hon. Treas.—Mr. R. JONES was unanimously re-elected.

Hon. Sec.—Mr. L. W. WYNN LLOYD was unanimously re-elected.

Owing to the small attendance it was decided that the President's paper be held over.

L. W. WYNN LLOYD, Hon. Sec.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

A general meeting was held at the Gresham Hotel, Dublin, on Tuesday night, August 22nd, when the President, Prof. A. E. Mettam, occupied the chair, and the attendance included: Messrs. W. H. Wilkinson, E. A. Ryan, J. J. Vahay, John J. Small, Jas. Dodd, J. Fox, Chas. Allen, Jas. McKenny, P. D. Reavy, M. Barlow, A. C. Duncan, W. Cargill Patrick, J. Ewing Johnstone, Prof. J. Craig, E. C. Winter, John F. Healy, P. J. Howard, J. W. Peatt, R. H. Lambert, L. M. Magee, J. B. Dunlop, F. C. Mason, T. B. Mulcahy, Chris. Rea, and A. Watson, Hon. Sec.

Visitors: Profs. Jas. McCall, John R. McCall, W. Owen Williams; Messrs. H. Phelan, F. S. Ringwood, J. S. McCann, E. Proctor.

Mr. CARGILL PATRICK proposed that the minutes of the last meeting of the Association which had been printed and circulated, should be taken as read and adopted. Mr. Winter seconded the motion, which was carried.

Letters of apology for absence were received from Messrs. G. Newsom, W. Chambers, W. B. Prendergast, J. A. Jordan, Lieut.-Col. Chas. Steel, J. V. Daly, and A. J. Moffett.

The PRESIDENT said that there was one election to be proposed—that of Mr. J. B. HARE, M.R.C.V.S., Navan, who had been proposed by Mr. Magee, and seconded by Mr. McKenny. Elected unanimously.

PRESIDENT CONGRATULATED.

Mr. McKENNY said that since their last meeting a great honour had been conferred upon their President. (Applause). He had been elected President of the Royal College of Veterinary Surgeons. He therefore offered him their hearty congratulations. (Applause.)

Mr. CHAS. ALLEN seconded, and the proposition was carried.

The PRESIDENT said he desired to thank them very much indeed for their kind congratulations. He did not expect to be elected to the honourable position which he had been chosen to occupy, and when he was proposed and elected, he came to the conclusion that they were honouring the profession in Ireland at the same time they were honouring him. He told his colleagues on the Council that he thought it would be viewed in Ireland as a compliment to the profession in Ireland and he hoped they would accept his thanks on behalf of Ireland. He hoped that during his term of office the business of the College would not suffer in his hands. He hoped to do something towards steering the ship through the stormy seas and cross currents which were besetting it. At the conclusion of his term of office he trusted to hand over the prestige of the College to his successor undeteriorated. He was sure he would have the support of his professional brethren in Ireland, because hitherto while he had resided in Ireland he had never received anything but the greatest consideration, courtesy, and goodfellowship from every member of the profession. He concluded by again thanking them for the honour they had done him. (Applause).

ROARING AND WHISTLING.

By Prof. J. F. CRAIG.

Mr. President and Gentlemen.—When I volunteered to write a paper on roaring and whistling for this meeting I expressed a wish that some of the members would send me specimens of the larynx, trachea, and lungs of horses which made an abnormal respiratory sound during life. So far I have received none, but I hope you won't forget me in future when you come across such cases.

My object in bringing this paper before you and in desiring you to send specimens is to find out whether we are all in agreement as to what roaring and whistling really mean, and what is the pathology of the condition. If we are going to operate on the larynx, we must, in order that we may have a fair prospect of success, first make sure that some defect or disease of the larynx exists.

1. What is roaring or whistling?

I define roaring or whistling as a chronic condition in which an abnormal laryngeal sound is produced during forced inspiration. That definition indicates that roaring and whistling are only symptoms of a disease. If the sound is produced during expiration only, or

during expiration to the same extent as inspiration, I take it that the condition is not roaring or whistling. The difference between roaring and whistling lies in the pitch of the sound produced. In roaring the pitch of the sound is low, in whistling it is high.

2. *What are the symptoms associated with roaring and whistling?*

Attention has been drawn from time to time to the conformation, sex, and breed of horses most frequently affected with the disease. Roaring is most commonly noted in thoroughbreds and the breed of horses which are close blood relations of the thoroughbred, and it is seldom seen in cobs and ponies. It has been said that horses and geldings are more frequently affected than mares, but the evidence is not convincing. Native Arabs are seldom roarers or whistlers. Warm dry climates are also opposed to the frequent production of roaring. This condition is considered to be associated with long, fine neck, heads badly set on, and a narrow intermaxillary space. But roaring and whistling will be found in all types of horses.

Unless the horse is badly affected no abnormal sound is made during rest; it is only after a varying amount of exercise that inspiratory sounds are produced at the larynx. The amount of exercise necessary to bring out the sound depends on the condition of the horse and other circumstances. It must be carried out until the animal shows slight respiratory distress. The lighter breeds of horses must be galloped, preferably in a circle, either in the saddle or in the case of unbroken colts lounged with the long rein. Heavy horses may be lounged, or harnessed to a heavy load and driven up hill. The sounds will be heard particularly at the turning or when the horse is pulled up suddenly. The noise disappears very quickly when the animal is allowed to stand. A second trial after a horse is rested a little brings out the abnormal sounds more clearly. The cough of a roarer is often described as being deep, hollow, and prolonged.

A roarer and whistler often grunts when placed against a wall and threatened with a stick. This occurs particularly with nervous horses. The grunt is usually prolonged, and is louder if the horse's head is pulled towards the chest, and especially towards the right side. But every roarer and whistler will not grunt when feinted with a stick, and some grunTERS have no affection of the wind. It has sometimes occurred, however, that a horse which grunted afterwards became affected with roaring or whistling. Nevertheless, there is only one true test of this condition, and that consists in exercising the horse till slight respiratory distress is produced.

Fleming writes: "Direct manual examination of the larynx itself is valuable in ascertaining the condition of that organ, especially if the muscular wasting on the left side is at all considerable, and with practice the expert has generally little difficulty in pronouncing as to the existence of this wasting. When the horse's head is somewhat extended the larynx is more exposed, and the index finger can then readily feel its superior surface, which is formed by the wide expansion of the cricoid cartilage and the dilator muscles covering it. If the left muscle is wasted this surface will be found much flatter on that than on the right side." In my opinion the position of the posterior crico-arytenoid muscle is too deep to permit of a comparison between the two muscles. Again, the laryngoscope, or examination of the interior of the larynx by the hand are not practicable in the horse because of the length of the buccal cavity and soft palate.

It has been suggested that in order to be quite certain that any case of roaring is due to paralysis of the muscles of the larynx, the latter should be opened through the crico-thyroid membrane, to note the condition of the vocal chords and arytenoid cartilages. On

the side affected these organs do not move, or move only to a slight extent during respiration. This is hardly a commendable plan for the formation of a correct diagnosis. Auscultation over the larynx might be of some service in ascertaining the origin of the sound.

3. *What is the cause of the sound in roaring or whistling?*

The sound is produced by the vibration of the vocal cord, most commonly the left one. This is brought about by the inaction of the posterior crico-arytenoid muscle during inspiration. Some of the inspired air enters and fills the ventricle of the larynx, pushes the vocal cord further inwards as a projecting band in the course of the air current, which makes it to vibrate. No doubt the arytenoid cartilage will also project into the tube to a slight extent and perhaps assist in the production of the sound.

4. *What is the pathology of the condition?*

The larynx of a roarer or whistler presents certain changes in the intrinsic muscles. The intrinsic muscles of the left side with the exception of the left crico-thyroid are paralysed and atrophied, yellowish in colour, and fatty. Seldom are the muscles of the right side affected, and when they are it is usually only in company with those of the left side. The muscles involved on the left side are:

(a) *Posterior crico-arytenoid*, which swings the arytenoid cartilage outwards, carries with it the vocal cord, and so opens the glottis.

(b) *Lateral crico-arytenoid*, which swings the arytenoid cartilage inwards, carrying with it the vocal cord, and so closes the glottis.

(c) *Arytenoideus*, which approximates the arytenoid cartilages and so assists the lateral crico-arytenoid in closing the glottis.

(d) *Thyro-arytenoid*, which draws the arytenoid cartilages downwards towards the thyroid cartilage and so slackens the vocal cord. During expiration the glottis decreases in size by the action of the lateral crico-arytenoid; during inspiration it increases in size by the action of the posterior crico-arytenoid. It is noted in specimens of the larynx from roarers that the left posterior crico-arytenoid is atrophied to a much greater extent than the other muscles, and in artificial section of the inferior laryngeal nerve the same point is also observed.

5. *How is this paralysis of these intrinsic muscles of the left side brought about?*

Atrophy and degeneration of muscles may be brought about by (1) a decreased blood supply, (2) by inaction. There is no evidence of a decreased blood supply in this connection. The inaction of a muscle may be caused by some defect in the nerve supply. The nerve supply of the affected muscles is the left inferior laryngeal nerve. This nerve may be affected either at its termination, through its course, or at its origin in the medulla.

(1) Is there any evidence of a neuritis or some change of its nerve terminals?

According to Thomassen, in 99% of the cases of left sided paralysis of the larynx the changes in the recurrent laryngeal nerve are to be found in its peripheral extremities, viz., the vicinity of the larynx. The thoracic portion is quite normal.

(2) Is there any evidence that the nerve is affected through its course?

Because the left side of the larynx is affected rather than the right, an explanation has been sought in the course of the left inferior laryngeal nerve. This nerve differs from the right nerve in its longer course—it is given off opposite the fifth rib from the left vagus, and turns round behind, and gains the inner side of the posterior aorta. Here it lies between the latter and the trachea. It also comes in contact with the bronchial

and tracheal lymphatic glands. It is believed that the nerve is pressed upon or stretched by dilatation of the aorta, by pressure between the latter and the trachea, or by pressure from enlarged bronchial or tracheal glands in the course of strangles, pneumonia, pleurisy, tumours, etc. From the fact that long fine necks are often seen in roarsers, Martin supposed that during the development of the body in youth the neck becomes lengthened and the heart pushed back, straining the left recurrent nerve and pressing it at the aorta, so impairing its function. Various authorities, Ferguson in 1838, Lafosse, Trasbot, Duprey, Bouley, Colin, and Tundell have found in isolated cases enlarged thoracic glands or tumours in the neighbourhood of the nerve, or the left inferior laryngeal nerve involved in them. One would expect that if this were so Wallerian degeneration of the nerve would begin at the point of pressure and extend to the periphery, but there is no distinct evidence on this point. Fleming states that in cases of long existing chronic roaring the left recurrent nerve and its filaments have become so wasted that little is left of them except the sheath, and this even is so attenuated that a most careful dissection is required to find it. I have examined some dissection subjects in which the intrinsic muscles of the left side were affected, but did not notice any marked difference in the left inferior laryngeal nerve.

(3) Is there any evidence that the disease of the nerve is central?

In some cases no affection of the inferior laryngeal nerve in its course has been found, even after a microscopic examination, and therefore one must look for some other point at which the disease is located. It is interesting to note that the fibres of the inferior laryngeal nerve come originally from the spinal accessory nerve. It is possible that the condition is a toxic one, and that there is a central lesion which may cause some defect or derangement in the relationship between the respiratory centre and the motor centres for the laryngeal muscles.

6. *What are the predisposing causes of roaring and whistling?*

Heredity is considered to have a very considerable influence in the production of roaring and whistling. The influence may be, and probably is, of the nature of a predisposition. The progeny of roarsers do not develop the disease until they are three or four or more years old, i.e. until they are being put to strenuous exercise or hard work. Fleming gives a number of instances; Girard, Jun., cited the case of the stallion Misanthrope, two-thirds of whose produce became affected with roaring. Sometimes roaring does not appear till late in life. It has been held by some that if a horse makes a noise when he comes to about eight years old the predisposition is not transmitted. Here is a record of a case which is opposed to that opinion. A great horse-breeder of Livonia had a fine English stallion which when about ten years old became a roarer without any appreciable cause. From this time nearly all his produce were affected, but only when they reached ten years of age. Charon states that 60% of the produce of horses affected with roaring become roarsers when exposed to exciting causes. Roaring can frequently be traced through several generations of horses. The transmission of the predisposition is more certain when both parents are affected. In some cases the progeny of roarsers have never shown this defect. From Taurus a celebrated racehorse, but a roarer, none of the progeny became affected.

7. *What are the exciting causes?*

The most common exciting cause is strangles. Roaring may also follow diseases of the respiratory tract—laryngitis, bronchitis, pneumonia, pleurisy, and even influenza. How these affect the production of the disease is undecided. It may be that it is caused by some toxic action or by pressure by some exudate, e.g.

in laryngitis on the nerve terminals, or by pressure by enlarged bronchial or tracheal lymph glands, or by a consolidated lung, e.g. in pneumonia, or by thickened pleura, or by dilatation of the posterior aorta and pressure on the inferior laryngeal nerve. That is to say the exact way in which these diseases affect the inferior laryngeal nerve may not be constant, but may vary considerably. Roaring has been caused by inflammation of the jugular vein as the result of phlebotomy. Feeding with mutta pea (*Lathyrus sativus*) and lead poisoning have also given rise to paralysis of the muscles of the larynx.

Sometimes roaring and whistling appear suddenly without any apparent cause. One case of the kind was brought to my notice recently. A horse which had been known to be sound for a considerable time was examined by a well known veterinarian and a sound certificate was given. The following day the horse was taken out for exercise and roaring became manifest even at only a moderate pace. The animal remained a roarer.

8. *What is the progress and what is the effect of roaring and whistling?*

As previously mentioned, roaring may appear quite suddenly and without any apparent exciting cause, but as a rule some history precedes the appearance of the disease, e.g. an attack of strangles. The rule is that once a horse is so affected it remains for ever afterwards a roarer or whistler. A few recoveries have been noted. For example: A thoroughbred mare, Brigantine, as a two-year-old became affected with roaring, but as a three-year-old the disease disappeared, and the mare won the Oaks, Ascot Gold Cup, and Hurstbourne Cup easily. The disease may come on suddenly and remain stationary or gradually increase. Sometimes roarsers become whistlers, but the converse also occurs. Laryngitis, cold, damp weather aggravate the condition, and the distress and noise are less marked when the condition of the animal is good.

Some forms of treatment are occasionally adopted to cause temporary relief; ½ lb. of warm butter or glycerine given half an hour before exercise diminishes the noise and distress. Abstinence from water for some time before exercise has also proved beneficial, and partial occlusion of the nostril, or bulky food given to a horse have been successful in diminishing the noise, but not in increasing the working capacity. The objectionable features of the disease are the noise, the distress, and the hereditary nature. Probably the pitch of the sound is influenced by the action of the crico-thyroid muscle, which tenses the vocal cords and may influence the difference between roaring and whistling. The distress caused is far greater with roaring than whistling, and greater in some cases than in others.

The loudness of the sound is no indication as to the difficulty in breathing. Many a whistler is noted in the hunting field as one of the best known stayers. Some horses may stay although roaring like bulls. Ormonde, though an undoubted roarer, was able to distinguish himself on the racecourse. But in other cases dyspnoea appears after a time and the animal may be brought to a standstill. No doubt this has something to do with the want of aeration of the blood or the condition of the circulation.

9. *What are the diseases from which roaring and whistling have to be distinguished?*

(1) High blowing or trumpeting produced by flapping of the false nostril, quite a normal condition, need hardly be commented upon. It disappears when a horse becomes distressed or when the pace is forced.

(2) Wheezing is a condition of heavy breathing in which the sound is both expiratory and inspiratory. It is due to narrowing of the bronchial tubes from thickening of the mucous membrane.

(3) Atheroma of the nostril is a sebaceous cyst which forms on the skin of the false nostril, sometimes it

occludes its lumen and presses on the nasal chambers. A noise is then produced during inspiration. It should be observed by actual inspection.

(4) Paralysis of the muscles of the nostrils will also cause dyspnoea and an inspiratory sound, but can easily be differentiated by the appearance of the nostrils.

(5) Thickening of the mucous membrane of various portions of the respiratory tract, tumours, occasionally foreign bodies in the respiratory passages—the nasal chamber, pharynx, larynx, and trachea—fractures of the nasal, turbinated, and maxillary bones lining the nasal chambers, fractures of the laryngeal and tracheal cartilages, or injuries or malformations thereof, will all cause respiratory sounds during exertion by infringing on the lumen of the passage, but these sounds will be generally both expiratory and inspiratory. A polypus in the pharynx may cause intermittent dyspnoea.

(6) Pressure on the pharynx from empyæma of the guttural pouches, and abscesses in connection with the pharyngeal and parotid glands will cause dyspnoea and respiration sounds, but again these are both inspiratory and expiratory. Usually in those cases there is considerable swelling in the parotid region.

(7) Laryngitis, where thickening of the mucous membrane or the submucosa results from an exudate or new fibrous tissue, will also cause respiratory sounds, but the animal is obviously ill, affected with strangles or a similar disease, and the respiratory sounds are both inspiratory and expiratory.

(8) Ulcerative laryngitis, as in glanders, where it affects the vocal cords or arytenoid cartilage, may also cause roaring, because it interferes with the movements of these organs, or because it causes a thickening of the neighbouring mucous membrane. If there is a considerable thickening I should expect a distinct expiratory sound. It is hardly likely nowadays to be a common cause of confusion.

(9) Ossification of the laryngeal cartilages is seldom a cause of abnormal respiratory sounds, and I doubt whether it is a cause at all unless fusion of some of the laryngeal cartilages occur. Calcification of the thyroid cartilage in common, in fact in old horses that cartilage always contains lime salts. If fusion of the cartilages occur then abnormal sounds will be produced both during inspiration and expiration. I have heard of cases of this kind.

(10) Spasm of the glottis is a condition which has been described in the horse. It is a means of explaining those cases of intermittent roaring or whistling where an animal roars or whistles one day and not the next. It causes marked dyspnoea. It is difficult to distinguish from ordinary roaring and whistling at the time of examination of a horse for soundness, and seems to me to be a case in which confusion may occasionally result.

(11) Overlapping of the tracheal rings has also been noted as a cause of abnormal respiratory sound. It would be difficult here to distinguish it unless it affects the tracheal cartilages of the neck, which may be examined and felt.

(12) Sometimes a horse makes a respiratory sound because of circulatory disturbance, as the result of some heart affection. That can be recognised by examination of the pulse or heart after a gallop.

These then are the conditions which have to be distinguished from roaring and whistling.

I do not intend, gentlemen, to deal with the treatment of this condition. I will only say that for prevention roarers and whistlers should not be bred from, and great care should be taken of horses during the course of, and recovery from, strangles and respiratory diseases. No severe exercise should be permitted during this period, and a course of potassium iodide, arsenic tonics administered.

In the discussion I should like you to confine yourselves to answering the questions I have put to myself in the paper:

1. What is roaring or whistling?
2. What are the symptoms?
3. What is the cause of the sound?
4. What is the pathology of the condition?
5. How is this paralysis of the intrinsic muscles of the left side brought about?
6. What are the progress and effects of the condition?
7. What are the predisposing and exciting causes?
8. What are the diseases from which roaring and whistling have to be differentiated, and how would you differentiate?

(To be continued).

Charge of Cruelty to Whales.

THE LEGAL MEANING OF CAPTIVITY.

A novel case, in which proceedings were taken under the Wild animals in Captivity Act, was heard at the Penzance County Court, on Saturday, Aug. 5.

On July 1 a number of whales belonging to the species known as "pilot whale", or "ca'ing whale" (*Globicephalus melas*) were brought up by the tide and left stranded and helpless on the beach, where they were surrounded by a large crowd of people. No similar occurrence had taken place at Penzance for many years, and there appears to have been no one present with any knowledge of whales; and in some cases attempts were made to kill the animals with revolver shots; in other cases whales that were already wounded but still alive, and others that had not been shot, were slashed with knives and otherwise ill-treated. With respect to the wounding with knives, three summonses were taken out by the Royal Society for the Prevention of Cruelty to Animals, at the instance of Inspector Steele. Mr. Stuart Bevan appeared in support of the summonses, and Mr. W. T. Lawrance defended.

The case against Alfred Rogers, a billposter, was taken at length. Two police constables, Inspector Steele, and a private spectator were called to prove the facts. It was stated that Rogers had been seen with a clasp knife in his hand, the knife and hands being covered with blood, and that he had cut a whale. He had been warned by the constables, and had had an altercation with a bystander on the subject, but had afterwards taken a small clasp knife from his pocket and had made a deep cut some 4 feet in length along the skin of the whale, the animal lashing its tail, snorting, and showing by its heavy movements that it was suffering severe pain.

Dr. Chalmers Mitchell, F.R.S., Secretary of the Zoological Society, stated in evidence that whales were warm-blooded, air-breathing mammals, with brain and nervous system of a high type, that the cutting described must have caused great pain and could not be regarded as a proper way to attempt to kill the animals.

For the defence it was stated that Rogers intended by his actions to put out of their misery animals that had been wounded by revolver shots.

Mr. Bevan urged that it was immaterial whether the animals had come into captivity by the agency of man or the operation of nature, that at the time of the alleged acts of cruelty they were actually in captivity and were entitled to protection until they were released by the rising of the tide. It was contended in reply that the Act applied to wild animals, such as those in menageries, brought into captivity by man for his own purposes.

The Bench found that the defendant had unreasonably caused unnecessary suffering. They held, however, that there was no captivity within the meaning of the Act, and dismissed the cases.—*The Times*.

DISEASES OF ANIMALS ACTS 1894 to 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.		
	Outbreaks		Animals		Outbreaks	Animals.	(including Farcy)		Counties Affected		Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported			Outbreaks	Animals.						Animals Attacked
Gr. BRITAIN. Week ended Sept. 16	13		14				7	12		2	37	394	
Corresponding week in	1910	14		14			13	37	Essex 2	1	18	305	
	1909	19		23			13	44		3	17	139	
	1908	10		11			14	32	Hants 6	2	30	143	
Total for 37 weeks, 1911	612		761		8	425	145	237	London 2	309	1840	21517	
Corresponding period in	1910	1041		1249	2	15	270	818	Middlesex 2	344	1037	9472	
	1909	940		1255			395	1420		474	1290	11713	
	1908	785		1049	3	112	597	1840		641	1522	8843	

Board of Agriculture and Fisheries, Sept. 19. 1911.

Parasitic Mange (outbreaks)

IRELAND. Week ended Sept. 16	...	...	...	...	...	...	...	1	4	5	30
Corresponding Week in	1910	...	...	...	...	...	...	...	6	...	...
	1909	...	...	...	...	...	...	...	1	2	82
	1908	...	...	...	...	...	...	...	1	5	113
Total for 37 weeks, 1911	...	7	14	...	...	2	3	53	258	97	1617
Corresponding period in	1910	5	8	...	...	1	2	56	355	73	1707
	1909	5	5	...	...	...	...	67	307	85	1507
	1908	6	9	...	...	...	...	31	277	140	3084

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 18, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Parasitic Mange Order—V.S. Fined.

At the Birkenhead Police Court on September 16th, Warwick Fowle, veterinary surgeon, was summoned for having omitted to give notice to the police of the fact that a horse in his possession or charge was suffering from parasitic mange. He said he pleaded guilty to a technical offence, unwittingly committed.

Mr. Norman Smith, Assistant Prosecuting Solicitor to the Corporation, appeared in support of the summons.

On Saturday night, August 26th, a man named Victor Janson, a Liverpool team owner, brought a horse to Mr. Fowle's premises, and left it for treatment, stating that he had no stable to put it in. Mr. Fowle told him it was suffering from a skin disease, and he ought to report it. Janson did not fetch it away until September 1st, when he took it to Mr. Thomas Dobie, another veterinary surgeon, who found it to be suffering from parasitic mange, scrapings on different days showing parasites. Mr. Dobie reported the case.

Evidence was given by Janson, Mr. Dobie and Inspector J. R. Carnie. In cross-examination Mr. Dobie said it was sometimes extremely difficult to find the parasites, even when suspicion existed.

In defence, Mr. Fowle said he took scrapings on the Sunday morning and failed to find any parasite, but he told Janson it was a suspicious case, and that he had better report it. Janson promised to take the horse away on the Monday morning, but he never came until Friday, and meanwhile he (defendant) kept it isolated, and washed and dressed it as thoroughly as if parasites had been discovered. He made repeated examinations and found no parasite. On the Friday he told Janson to at once report the case as "suspicious," considering that the onus rested with him (Janson), as he (defendant) could not certify actual parasitic mange.

The Bench said a technical offence had been committed, and they fined defendant £1 and 9s. 6d. costs.—*Birkenhead News*.

Personal.

CRABB—On Sept. 15th, at 8 Carson Road, Dulwich, S.E., the wife of Alexander Crabb, M.R.C.V.S., of a daughter.

The Witham Committee under the Diseases of Animals Act have appointed Mr. A. J. HORNER to succeed Mr. Ainsworth Wilson as veterinary inspector for the Witham Police Division.

Mr. G. H. PICKWELL, Locum, leaves England on 23rd inst., for Singapore, to relieve Mr. C. W. Abrams, who returns to England for a few months.

Mr. AINSWORTH WILSON, who had been in practice at Witham for seven years as a veterinary surgeon, left Witham on Thursday, Aug. 31, for the Royal (Dick) Veterinary College, Edinburgh. Mr. Wilson has been chiefly known at Witham, outside his professional engagements, as a prominent advocate of the bowling pastime. He was principally instrumental in forming the Essex County Bowling Association, to which he acted as hon. sec. until March last. He was runner-up in the Single-handed Competition for the R. A. Jones' Cup in 1909, being beaten in the final by Mr. R. Jack, of the Essex County Bowling Club. He has played in two finals for the hundred-guinea challenge cup, having won both his rinks. At Witham Mr. Wilson has taken for several years a leading part in the affairs of the local bowling club. The departure of Mr. and Mrs. Ainsworth Wilson is greatly regretted at Witham, although his friends are pleased at the professional advancement he has secured.

On Wednesday evening Messrs. A. W. Garrett and J. Croxall, vice-captain and secretary, respectively, of the Bowling Club, waited upon Mr. Wilson, and on behalf of the members presented him with a case of pipes, accompanied by a letter from the President, Mr. F. P. Bawtree.—*Essex County Chronicle*.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Sept. 15.

REGULAR FORCES. ARMY VETERINARY CORPS.

The undermentioned to be Lieuts. (on probation):
G. F. Steevenson. Lieut. F. B. Hayes, from the Un-
attached List, T.F., O.T.C., Royal Veterinary College
of Ireland, William Halstead, Francis Hogg, R. F.
Stirling. Dated Sept. 16.

Sept. 18.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

L. W. W. Lloyd to be Lieut. Dated May 19.

OBITUARY.

HAROLD SESSIONS, F.R.C.V.S., F.R.G.S., Henley-on-Thames
Graduated, Lond: May, 1891.

The announcement of the death of Mr. Harold Sessions will be received with much regret in Brighton and Hove, where he was widely known and esteemed. A member of a well-known Gloucestershire family—his grandfather, Mr. Jesse Sessions, was one of the most popular Mayors Gloucester has ever had—the deceased was, as a youth, a farm student with Messrs. C. and E. Robinson, at Saddlescombe, and on their advice decided to qualify as a veterinary surgeon, a profession for which he had exceptional aptitude. He distinguished himself at the Royal Veterinary College, winning the medal for the first student of his year, and he afterwards acquired Tongdean Farm in partnership with young Mr. Rowntree, a member of the celebrated cocoa manufacturing firm of that name. At the same time Mr. Sessions practised as a "vet." and not long afterwards acquired premises in Goldsmid Road, Hove, where he became a very busy man in his profession, in which, although handicapped by a lack of physical reserve, he, by indomitable perseverance and application, attained to a considerable degree of eminence. Among other appointments he held those of veterinary lecturer at the East Sussex County Council's Agricultural College, Veterinary Inspector of the Royal Agricultural Show at Maidstone, and Veterinary Surgeon to the Southdown Hunt. Failing health compelled him to relinquish a highly lucrative practice, and travel abroad.

He served on three of the Army Remount Commissions—in Spain, the Argentine, and the United States, crossed the Andes twice, visited nearly every State in North America west of the Mississippi, and travelled through a large section of country which had previously been practically unexplored. He was the author of "Two years with Remount Commissions," a work which attracted much attention, dealing as it did with the whole question of remounts, past and future, from an agricultural, national, and military point of view. Coming back re-established in health, he became associated with one of his brothers in a big farming enterprise on the Welsh border, and, in connection with it started a business in importing Spanish donkeys for mule breeding. This involved repeated visits to Spain, and purchases he made were exported to mule breeding countries. After a time he moved this branch of his business to Henley-on-Thames. About eighteen months ago his health again broke down, and he was compelled to relinquish active business. He had since been living at Dawlish in Devonshire, and more recently paid a visit to Switzerland with the hope that the change would prove beneficial to his health. He has passed away at the comparatively early age of 45, his death being attributed to heart failure. When in Sussex Mr. Sessions followed the hounds regularly, and was a great favourite with members of the Southdown Hunt. His wife, who, with several children, survives him, is a daughter of the late Canon Gell, formerly Rector of Edburton.—*Sussex Daily News*.

Death of a Scottish Veterinary Surgeon

The oldest inhabitant of the parish of Kilbarchan died on Tuesday evening, the 12th inst. Mr. Robert Lang, veterinary surgeon, Main Street, Bridge of Weir, was born in March, 1814, and had lived under six Sovereigns. Mr. Lang was thus in his 98th year. He was born within 100 yards of where he died, his father, a blacksmith by trade, and as horseshoers the family had a wide reputation. After completing his apprenticeship Mr. Lang studied for the veterinary profession in Edinburgh, and qualified in 1838. He was the doyen of the profession in Scotland. In his later years he was afflicted with deafness, but his other faculties were little impaired. As a young man he joined the Renfrewshire Yeomanry, and was called out to take part in quelling the Greenock Riots. He was a keen Conservative, and remembered how during the election times of the Reform Bill the windows of his father's house were wrecked by a Radical mob from Kilbarchan on account of his Tory proclivities. An inveterate smoker, Mr. Lang up to his death never smoked less than four ounces of tobacco a week.—*Glasgow Herald*.

"AN UNUSUAL SKIN AFFECTION OF CATTLE." (p. 185)

Sept. 21st.

P.S.—Since writing you on the above, I have seen a typical case of the disease in a milch cow the property of a suburban owner, about half-a-mile from town, and in another district. This cow was the only animal kept, and two days ago showed swelling of both knees, and fissures at the flexures of these joints. One fore-leg is extensively swollen, and the fissures are discharging an amber-coloured glutinous fluid which forms rapidly into crusts. At the posterior aspect of the other knee an ulcer has developed. No other lesions are present, and beyond marked stiffness in progression the animal seems in good health.

E. WALLIS HOARE.

GENERALIZED PERITONITIS.

Sir,

Capt. Rainey asked a very interesting question in your last issue, viz., "Is generalised peritonitis possible as the result of 'chill'?" My experience is too slight to enable me to give a positive answer, but I remember a case which certainly seems to suggest a reply in the affirmative. It occurred many years ago. A light cart horse was turned out to grass on account of lameness. Through the field ran a small stream or beck with steep sides, say four feet deep by the same in width. At the bottom was a trickling stream of water about 8 to 10 inches deep. The horse was seen in the evening apparently well, and was found in the morning in the ditch or stream. With great difficulty he was got out and led to a loose box about a quarter of a mile away. He was covered with clay and mud as though he had struggled violently, and was much exhausted. Probably he had been some hours in the water.

I saw the case about three hours after he was released. The pulse and respirations were both increased, and there were some signs of colic, but he never lay down till he fell to die next day—about thirty hours. I remember the case well, because my diagnosis hovered between pneumonia and colic, and on looking up some notes on diseases which used to appear in early editions of Finlay Dun's *Materia Medica* I found a sentence to the effect that "the symptoms of peritonitis are a mixture of those of pneumonia and enteritis."

Post-mortem examination disclosed only slight effusion into the abdomen with some soft adhesions, and an angry red appearance of the peritoneum lining the abdomen.

—Yours truly,

W. H.

BLACKLEG

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The New Zealand Official Report on Blackleg shows that the mortality from this disease has been reduced by 75 per cent. since vaccination was made compulsory. The vaccine is supplied in convenient form under the name of

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Extract from a letter which appeared in *The Veterinary Record*, January 25, 1908: "About five years ago I commenced to inoculate with Parke, Davis & Co.'s 'Blacklegoids,' and since then I have lost only one, and that was this year, out of over 900 inoculated since I commenced. I may mention that I have no interest in Parke, Davis and Co.'s preparations."

Co. Kilkenny, December 28th. 1907.

The Stock Inspector of the Pastures Protection Board, Singleton, Australia, when ordering (May 17, 1907) 200 doses of "Blacklegoids," stated: "This is the third year I have used your 'Blacklegoids,' with a result far better than I or the owners of the cattle ever anticipated. I do not know of an instance where it did not act as an immediate preventive."

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PARTNERSHIP, with view to succession, in a good-class sporting practice, desired by an experienced M.R.C.V.S. with capital at command. Good horseman. Particulars will be received in strictest confidence.

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ROYAL VETERINARY COLLEGE.

Principal and Dean :

Prof. Sir JOHN M'FADYEAN, M.B., B.Sc., M.R.C.V.S.

SESSION 1911-12.

**The Winter Session will commence
on Monday, October 2nd,**

When the Chair will be taken by
LEONARD BRASKEY, Esq., M.P., and the
INTRODUCTORY ADDRESS delivered by
STEWART STOCKMAN, Esq., M.R.C.V.S.,
Chief Veterinary Officer to the Board of
Agriculture and Fisheries, at 3 p.m.

The College Calendar, with full particulars
of Fees, Prizes offered, duration of Terms, and
other information will be forwarded on applica-
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RICHARD A. N. POWYS, Secretary.

July, 1911.

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The Record is posted to Subscribers on Friday, usually in time for the 5 p.m. collection. The normal issue consists of 16 pages of literary matter but this is varied to 20 or to 12, as may be required.

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WEST OF ENGLAND. Town practice held nearly 20 years by present incumbent. Receipts: 1910 £1172. Contracts produce £251. Good house containing 5 bedrooms, 3 recept. etc. garden, stabling. Working expenses light. Premium £1500.

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WEST OF ENGLAND. Practice in good breeding and hunting district, returning £600 per annum. In present hands 10 years. Convenient house with surgery, stabling etc., rent £55. Premium one years purchase.

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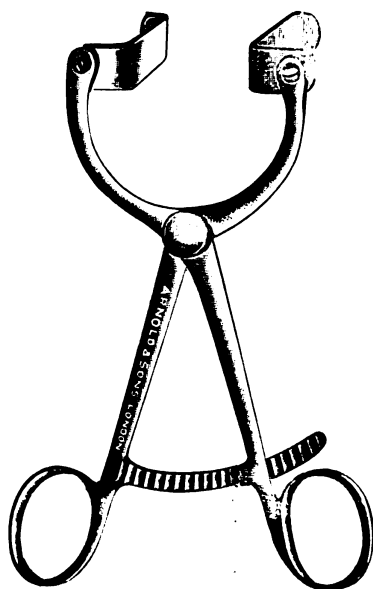
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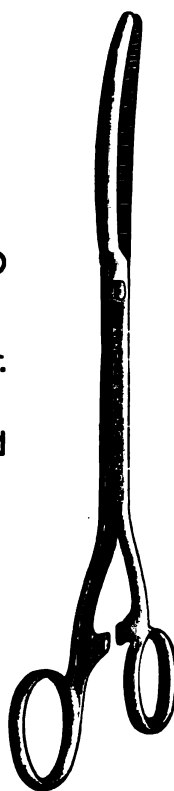


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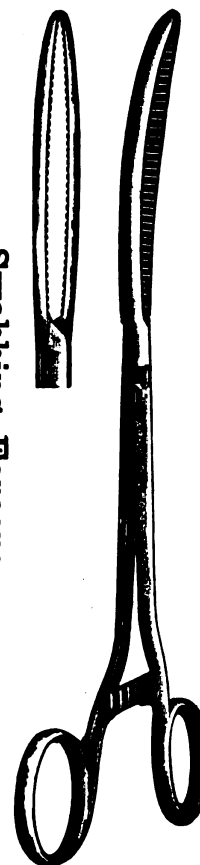


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SEPTEMBER 30, 1911.

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Canvassing of Members of the Council will be regarded as a disqualification. EDWARD R. PICKMERE,
Town Clerk's Offices, Liverpool, Town Clerk,
27th September, 1911.

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Prof. Sir JOHN M'FADYEN, M.B., B.Sc., M.R.C.V.S.

SESSION 1911-12.

**The Winter Session will commence
on Monday, October 2nd,**

When the Chair will be taken by
LEONARD BRASSEY, Esq., M.P., and the
INTRODUCTORY ADDRESS delivered by
STEWART STOCKMAN, Esq., M.R.C.V.S.,
Chief Veterinary Officer to the Board of
Agriculture and Fisheries, at 3 p.m.

The College Calendar, with full particulars
of Fees, Prizes offered, duration of Terms, and
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VOL. XXIV.

THE REPORT OF THE I.C.V.D., UNITED PROVINCES.

The annual report of the Civil Veterinary Department of the United Provinces has just been published, and is highly satisfactory. In no part of India does the C.V.D. appear to be making better headway than in the United Provinces.

Under the same guidance as last year, viz., that of Mr. E. W. Oliver, M.R.C.V.S., as Superintendent, with Mr. C. W. Wilson, M.R.C.V.S., as second Superintendent, the activities of the Department have steadily expanded throughout the year. Much further progress has been made in gaining native confidence, with the result that outbreaks of disease are now far more frequently reported than formerly, and the old prejudice against inoculation methods is evidently beginning to disappear. Thanks to inoculation, rinderpest is abating; and the abatement was most marked towards the end of the year under report. Other diseases of course exist in plenty, and good work has been done with all, while fresh legislation has strengthened the Department's hands with regard to some.

The local hospitals and dispensaries continue to increase, both in their number and the attendances they attract. Breeding operations are extending—especially horse breeding—while the newly-created bull farm is now in working order with hopeful prospects. In fact, the only unsatisfactory feature in the report is its evidence of the old-standing difficulty of the C.V.D.—the paucity of funds and men.

The Department is still grievously undermanned, and the need for provision for the training of Deputy Superintendents is becoming more and more urgent. Nothing has yet been actually done to meet it; but communications upon the subject are passing between the Director of Land Records and Agriculture (who fully recognises the need) and the Secretary to Government. This we gather from two letters between these officials which are printed with the Report, as was the case last year. Last year, we noted with pleasure that both these letters—which might have been limited to formal submission and acknowledgement respectively of the Report—fully recognised the merit of the C.V.D.'s work. This year we see that both again do so with equal emphasis. Evidently the value of the C.V.D. is becoming impressed upon the authorities, and it should not be long, therefore, before further facilities for extending its work are accorded. In the meantime, Messrs. Oliver and Wilson have good reason for pride in their record as it stands, and may confidently await the time when they will be reinforced by a body of adequately trained Deputy Superintendents.

FATAL TETANUS BROUGHT ABOUT BY HYPODERMIC INJECTIONS OF QUININE IN THE HORSE.

By T. LISHMAN, Lieut. A.V.C., Campbellpore, India.

"The case was one of acute biliary fever, evening temperature for the first week or so reaching 106° F. on four occasions.

Three subcutaneous injections of quinine bi-hydrochloride were given on alternate days—dose 5ii. Each seat of inoculation on the following day showed a painful diffuse swelling about 9 inches in diameter (roughly).

Two or three days after inoculation, the swelling had a firm indurated periphery, and a fluctuating centre. On lancing the centre, an ounce or two of clear fluid was evacuated, leaving a cavity, the walls of which were formed by the indurated swelling.

During the ensuing days, a certain amount of sloughing took place in the subcutaneous tissue round the cavity, and tetanus (so severe as to necessitate the animal's destruction) set in about ten days after the first injection.

Section of these swellings showed an area of subcutaneous necrosis extending for fully an inch round the cavities.

It may be mentioned that most particular care was taken with regard to asepsis, and the quinine was dissolved in boiling distilled water which was allowed to cool slowly."

The writer is indebted to Capt. W. J. Dale, A.V.C., Rawal Pindi, for the above description of a case treated by him a few weeks ago. At first sight nothing very remarkable is indicated by the case, and one is apt to dismiss it by saying that no doubt, in spite of all precautions, some tetanus organisms were injected with the solution, that the syringe or needle was dirty, that the skin was imperfectly sterilised, that the wound caused by the insertion of the needle was subsequently improperly protected, or that it was what is called a case of idiopathic tetanus; and its occurrence following the quinine injections was a mere coincidence.

That there must be other ways by which the animal could have been infected is, however, beyond dispute when one is assured that the precautions taken were so complete that the above mentioned channels of infection can at once be excluded.

Quinine, as is well known, when given in large doses produces the unpleasant and dangerous condition known as cinchonism, and it was to obviate this, get a more rapid action of the drug, and at the same time prevent gastric derangement, that

hypodermic and intramuscular injections were brought into use in human practice. This method of treating malaria in man rapidly took on, and gained popularity, until it was discovered that every now and then fatal attacks of tetanus followed the treatment. In fact medical men became so alarmed that in a short time the treatment almost ceased to be continued.

The channel of infection was so obscure that a full investigation was made by Lieut.-Col. Sir D. Semple, R.A.M.C., and the following remarks are made after a perusal of his reports.

Anything which lowers vitality, such as extremes of temperature and fatigue, may be looked on as predisposing agents to tetanus. Quinine when injected into the body would also be a predisposing agent:—

(1) By paralysing phagocytes.

(2) By causing an area of necrosis at the seat of injection that would be a suitable medium for the anærobic tetanus spores to grow in.

Tetanus does not always result when tetanus germs are introduced into the body.

"Washed spores" is the term by which is known the pure spores of tetanus which have had every trace of their toxin removed by filtering and washing several times in sterile normal saline solution, and it has long been known that when these are injected into an animal they fail to produce tetanus because they are either ingested by phagocytes, or are surrounded by the tissues of the part, where they may remain for years until they find suitable conditions to grow into bacilli and produce the disease by manufacturing their toxins.

If, however, these harmless "washed spores" are accompanied into the body by anything that will cause injury to, and destruction of the tissues, and tend to prevent phagocytosis, such as earth, sand, quinine, tetanus toxin, or other bacteria, then tetanus is the result.

In short, the introduction of pure "washed spores" produces a positive chemiotaxis, and the introduction of these spores together with sand, quinine, etc., produces a negative chemiotaxis.

Regarding the fate of the "washed spores" that are injected into the animal body, without producing tetanus, Col. Semple asks the following questions at the commencement of his experiments;—

"Now the question arises, when tetanus spores are injected hypodermically, are they in all cases picked up and destroyed by the phagocytes, or are some of them stowed away locally, to remain dormant until some irritant or some other depressing influence produces favourable conditions for their liberation and growth into toxin producing bacilli?"

"Would a similar locking up of tetanus spores take place when wounds or abrasions are infected with spore-containing material?"

After referring to Vaillard and Vincent (*Annales de l'Institut Pasteur*, Jan. 25, 1891) having proved that pure "washed spores" absolutely free from all tissue-destroying agents, when injected into the tissues are attacked and ingested by the phagocytes, the investigator states:—

"It may happen even with active phagocytes that some of the spores escape destruction, and

become stowed away locally to grow and produce infection at some future time when conditions become favourable. It may also happen that some of the phagocytes require a considerable time to kill off and digest the toughest of the spores, and that phagocytes in this condition on re-entering the circulation may get stranded or lodged in a suitable site where the spores can grow and give rise to tetanus. The subcutaneous or intramuscular injection of quinine would produce such foci provided spore-laden phagocytes become lodged there."

To prove this assumption, and also to be able to answer the foregoing questions, there were carried out 19 series of the most interesting experiments, the details of which I regret would be much too lengthy to recount in this short communication.

The 1st, 2nd, 3rd, 4th, and 5th series go to prove that quinine injected one day before, the same day, or one day after "washed spores" are injected, produces conditions favourable for infection, and in addition prove that infection is more rapid where the quinine is injected before the spores.

The 6th series go to show that cold will bring about fatal tetanus in animals injected with "washed spores" and that quinine injected in addition renders the animal still more susceptible.

The following important sentence occurs at the end of the description of this series:—"One would infer from these experiments that it is possible for a latent infection to be stirred into activity by cold or other depressing influences."

The 7th series went wrong owing to the accidental contamination of the culture from which the "washed spores" were obtained.

The 8th series showed that when a culture of tetanus germs (not "washed spores") is inoculated into one part of the body, and quinine injected into another, after death the organism can be recovered from the site of the quinine injection, although it is not to be discovered in any other part of the body excepting at the point where the disease was inoculated. This certainly looks like proof of a spore having been conveyed by a phagocyte to the part that had been suitably prepared for its reception by the hypodermic injection of quinine.

The 9th series gave additional proof that the bacillus of tetanus cannot be recovered from any other part of the body when quinine and "washed spores" have been injected, excepting at the two points mentioned in series No. 8.

The 10th series proved that morphia and normal saline solution when injected do not produce conditions suitable for the growth of the tetanus bacillus.

The 11th series proved that when "washed spores" are injected with quinine tetanus is the result, but when injected with morphia the disease is not produced.

The 12th series were the same as the foregoing, only monkeys were used instead of guinea-pigs, and the same conclusions arrived at.

The 13th series proved that six months after "washed spores" had been injected into a guinea-pig, without causing tetanus, they could be recovered from the site of introduction, cultivated under anærobic conditions, and used to produce fatal tetanus in other animals.

The 14th series proved that the tetanus organism could not be discovered in the blood of animals dead of acute tetanus.

The 15th series showed that out of an examination of human fæces from ten healthy individuals in four cases tetanus bacilli were isolated. This series is concluded with the following interesting passage:—"Granted that it is possible for tetanus spores to enter the circulation from the intestinal tract where the mucous membrane is injured, ulcerated, or in any way damaged to such an extent as to be incapable of keeping back infection, what is to prevent such spores getting stranded in an injury somewhere else in the body where there is dead anærobic tissue? The hypodermic or intramuscular injection of quinine would prepare a suitable focus in a case of this kind, and so would injuries of various sorts which are constantly occurring. It seems to me that this is a reasonable possibility of infection in cases of so-called idiopathic tetanus, and in many other injuries, including quinine injections, but to say more on the subject at present would savour of conclusions arrived at in the absence of proof."

The 16th series consisted of four healthy guinea-pigs being injected on the front of the chest with three-quarters of a grain of quinine, which was repeated two days later. Two days after the second injection they were killed, and anærobic culture made from the sites of the quinine injections, when a pure growth of tetanus bacilli was isolated from one of the animals. Is this explained by the remarks on the 15th series?

The 17th series was the same as No. 16, but no bacilli were recovered. The result here goes to show the correctness of the opinion formed of the 8th series, because here no spores were injected.

The 18th series showed that 10% of guinea-pigs harbour tetanus spores in their intestinal tracts, but that all are not virulent.

The 19th series showed anti-tetanic serum to be a reliable protective against tetanus, even though quinine be injected.

Colonel Semple concludes this most interesting piece of research by advising medical men "to give a dose of anti-tetanic serum immediately before or immediately after giving quinine hypodermically."

Seeing that the horse is the animal in the world most subject to tetanus, the above abridged account of Col. Semple's most valuable work must be of more than passing interest to veterinary surgeons, who will no doubt await, with special attention, corroboration from the laboratory workers.

It has for many years been known that the tetanus organism is a frequent inhabitant of the intestine of all herbivora, but the statement that live tetanus organisms can either be imprisoned in the tissues, or conveyed about the body in phagocytes will come as a surprise to most people.

Judging from the results of the experiments, one is led to believe that an injection of quinine exercises a sort of magnetic attraction on tetanus spores that are either in the animal's body, or living in its intestines, drawing them up to the site of injection, which, owing to injury done to the tissues by

the quinine, has become an ideal anærobic culture medium where they can grow into toxin-producing bacilli and thus cause the death of the animal.

If corroboration is forthcoming, then knowledge of the disease will be greatly increased, and one will have no difficulty in understanding such cases of tetanus as that described by Captain Dale, and one will also be able to understand how cases can arise from a bruise without a sign of the skin having been broken.

Note.—If any of your readers wish to read the full account of these experiments they can be obtained from Messrs. W. Thacker and Co., 2, Creed Lane, London, E.C., or Mr. E. A. Arnold, 41 and 43, Maddox Street, Bond Street, W., in the form of a pamphlet costing about 1/- "The Relation of Tetanus to the Hypodermic or Intramuscular Injection of Quinine," by Lieut.-Col. Sir D. Semple, R.A.M.C., Kasauli, India. In India the pamphlet can be obtained from Messrs. Thacker, Spink, and Co., Calcutta.—T.L.

ABSTRACTS FROM FOREIGN JOURNALS.

MULTIPLE HÆMORRHAGES IN THE MUSCLES OF THE PIG.

Multiple hæmorrhages are distinguished according to their origin, which may, on the one hand, be toxic and infectious, and on the other hand, may be merely traumatic. In the first of these cases the hæmorrhages only form one of the manifestations of the infectious or toxic process; others, and especially degenerative lesions of the parenchymatous organs, are also observed. In cases of this nature, muscular hæmorrhages are observed coincidentally with petechiæ upon the serous and mucous membranes and even in the substance of certain organs. All these cases are excluded from an article published by Berger (*Tydschrift voor Vecartsenijkuunde*), who confines himself solely to the hæmorrhages which are seen in the muscles of pigs of which the other organs are healthy.

Ostertag, in 1890, described three cases of muscular hæmorrhages in pigs which had been slaughtered with the mallet and bled after the ordinary method. The extravasations were observed especially in the diaphragm and in the abdominal and lumbar muscles. Ostertag invariably found ruptures of the muscular fibres here, while elsewhere he found fibres containing fatty granules. He attributed the hæmorrhages to the rupture of the fibres, and thought that the cause might be found in the manner of life of the pigs. From their youth the pigs had led a very inactive life, and Ostertag's view was that the muscular fibres having become enfeebled in consequence of this, the unaccustomed movements of the pigs at the moment of slaughter and during transport may have resulted in their rupture.

This view was supported by Ostertag's further statement that these hæmorrhages are seldom seen in breeding sows and boars, which live a much more active life.

Schneider, however, has systematically examined 2,000 pigs and has found the hæmorrhages in 25.7 per cent. of them. He also asserts that these accidents are found not only in fat pigs, but also in lean ones.

Berger's own observations upon the subject have been careful and extensive. He has observed that these hæmorrhages are situated especially in the muscles which have already been mentioned, and that they have a length of from a few millimetres to two centimetres (two centimetres—about 4.5th inch) and a width of two millimetres (approximately 1.12th inch). Sometimes they are found in such abundance that the muscle has a blackish blue tint. When the affected parts are incised, a dark red liquid escapes.

Berger's observations led him to the conclusion that the condition depended upon other etiological factors than those stated by Ostertag, and this idea was soon confirmed. Berger has supervised two establishments for the slaughtering of pigs for exportation, in which the methods of slaughter employed were not the same. The methods of these establishments, and the history of each as regards the occurrence of hæmorrhages, are as follows.

In abattoir A, previous to May 1st, 1909, the pigs were slaughtered with the mallet, in batches of twenty at a time. Each pig received a blow with the mallet, but it was not till the whole twenty had been thus stunned that bleeding was practised. Moreover, the animals were not bled in accordance with the order in which they were stunned. While this method was followed the hæmorrhages under consideration were very abundant at this abattoir, two per cent. of the pigs showing them.

In abattoir B, the pigs for a long time had been killed by the American method, viz., the animal being suspended in the air by the hind limbs, and bled immediately without stunning, with the head hanging downwards. In about 140,000 pigs killed in this fashion, Berger never observed the hæmorrhages. Previous stunning was then introduced into this abattoir, and from the day of its introduction the hæmorrhages commenced to appear.

The author thinks, therefore, that the hæmorrhages may be attributed to the stunning. He has attempted to find out whether the exact method of stunning adopted exercises any influence, and he has been informed that the hæmorrhages have not been observed in abattoirs where special apparatus (the bullet, percussion, etc.) are employed. In Germany, where pigs are generally stunned by a blow from the mallet, hæmorrhages are encountered in 25% of those killed.

In abattoirs it often happens that, no order being followed, the first pigs to be stunned in a batch are the last to be bled. In abattoir A., therefore, it was arranged that no more than six pigs should be stunned at a time before bleeding, and, when this was done, it was quickly found that muscular hæmorrhages diminished.

Berger then directed that the pigs should be bled immediately after stunning; and, while previous to this he had found hæmorrhages in 2% of the animals killed, he has since, up to the present time, inspected 5,000 pigs without finding one case. Rup-

tures of the muscular fibres, however, are still observed, but as the pigs are bled immediately, the blood has little time to become extravasated into these ruptures.

It is evident, nevertheless, that hæmorrhages may be produced a certain time before slaughter by the different traumatismes to which the pigs may be exposed.—*Annales de Méd Vét.*

TRICHOSOMA PLICA IN THE BLADDER OF A DOG

Emil Balla, of Budapest, records (*Allatorvosi Lapok*) two instances of this apparently rare occurrence, *Trichosoma plica* occurs in the bladder of the fox and wolf, but has only very rarely been found in the dog (Bellingham, Neumann, von Rätz). Balla's two cases were in a hunting dog and a St. Bernard. The urine of both these dogs contained the lemon-shaped ova of this worm, which coloured yellow, probably by the urinary pigments. In both cases symptoms of cystitis could be observed.

One of these dogs died of septicæmia; but only ova, and no fully developed worms, were found in the bladder post-mortem. Probably the worms had become detached from the vesical mucous membrane after death, and had escaped at the moment the bladder was opened. The other dog was really under treatment for a skin disease; when the skin disease was cured, the animal received 1 gramme of urotropin daily for ten days, but the ova of the trichosomes did not disappear from the urine. In both cases the parasites only caused slight catarrh of the bladder.—(*Berliner Tier. Woch.*)

[It is worthy of note that Bellingham, one of the few men who have found this parasite in the canine bladder, found it in Ireland.—TRANS.]

DIPHThERIA IN SUCKING PIGS.

Wysmann describes (*Schweizer Archiv*) an infectious disease of sucking pigs which has prevailed for some decades in his district, where it is known and feared by pig breeders. One of the popular names for the affection is "thick neck." The most prominent symptoms are difficulty of breathing, hoarseness of voice, snuffing inspiration, sero-mucous or frothy nasal discharge, swelling and sensitiveness to pressure of the parotid region, anxious expression, and finally ulceration of the gums and tongue.

Post-mortem, inflammation of the larynx and the nasal passages is found; and Guillebeaux, microscopically examining the deposits appertaining to these regions, found numerous thin bacilli, in part Gram-positive and in part Gram-negative, which he regards as diphtheria bacilli. Other bacteria are also present in small numbers.

Wyssmann regards the nature of the disease as doubtful, holding that two opinions of it are admissible. It may, he thinks, be a special form of swine fever, in which the diphtheria bacilli only play the part of a secondary infection, while the primary cause of the disease is the virus of swine fever. On the other hand, of course, it may be an independent diphtheria, such as has already been repeatedly found in older pigs.—*Berl. Tier. Woch.*

W. R. C.

THE DETECTION OF TUBERCLE BACILLI IN SPUTUM. —By F. W. EURICH, M.D., Bradford.

The method of examining sputum for tubercle bacilli which is still in general use is that of preparing the films direct from the sputum by picking out of it the likely flocculi and spreading them out on a cover glass or slide.

This method has never been considered satisfactory. Many processes have therefore been tried whereby the search for the bacilli may be made easier and more sure, but none have found general favour.

A great improvement was effected by Uhlenhuth's method, which consists in making the sputum homogenous by the addition of "Antiformin," and in examining the sediment that forms on standing, or after use of the centrifuge.

Its drawbacks are that a centrifuge of high velocity is required, and that the sediment has to be specially fixed on the slide.

The necessity for such a centrifuge alone makes the original method impracticable for most practitioners. Both difficulties are overcome by an ingenious modification published by Koslow in June of last year.

As this improved method seems to be very little known, and as my results with it have fully borne out the advantages claimed for it, I make no excuse for trying to draw to it the attention of those who take an interest in sputum examination.

I have applied it now in several hundred cases, and can confidently recommend it as a great improvement upon all devices. The method is briefly thus: A quantity of the sputum is shaken up with "Antiformin" in a glass stoppered vessel, such as a measure cylinder (Antiformin=15 per cent. Liq. Sod. Hydrat.+Liq. Sod. Chlorinat. aa.) the proportion of "Antiformin" depending upon the consistence of the sputum; if the latter is very viscid or dense an equal proportion may be required; if thin, then half the amount may suffice. The mixture is occasionally shaken during five minutes, it is then diluted with a volume of distilled water approximately ten times as great as that of the "Antiformin" used, and again shaken for a few minutes. Finally there is added a mixture of equal parts of ether (methylated ether will do) and acetone equal in volume to that of the water. It is shaken once more for a few seconds, and the whole allowed to stand. In a few minutes the contents of the bottle will be found to separate into three layers. The middle layer, appearing as a more or less dense white ring, will contain nearly all the tubercle bacilli that may be present in the sputum and can be drawn off with ease by means of a pipette fitted with a teat. The density of this middle layer can be increased after it has been pipetted off, if desired with the help of a centrifuge (an ordinary hand centrifuge will answer the purpose) but it is not necessary. A film is made, dried, and fixed in the usual way by passing it through a flame.

Before staining the film I immerse it for a few seconds in 5 per cent. alkali and wash to remove the acid. If the examiner is interrupted or other-

wise pressed for time the whole mixture may be allowed to stand till the next day, or even longer, the acid-fast property of the bacilli is not affected by the delay. The sputum-antiformine mixture should be diluted with distilled, not with tap water, as the latter may contain acid-fast bacilli. The advantages of the method are—

1. Its cleanliness.
2. A special armamentarium is not required.
3. The search for tubercle bacilli is more thorough and sure.

A drawback might be found in the slight additional cost incurred by the use of ether and acetone, but the greater accuracy of the results—more than 15 per cent. of otherwise negative tests proving positive by this method—is surely adequate compensation.—B.M.J.

MR. BRITTLEBANK'S REPORT TO THE MEDICAL OFFICER OF HEALTH, MANCHESTER, 1910. (ABSTRACT.)

I beg to submit my report on the work done during the year. In carrying out the duties for which I was appointed—(1) The Inspection of the Manchester Cowsheds and Dairies as to their compliance with Manchester Regulations made under the Dairies, Cowsheds, and Milkshops Order; (2) to act as Veterinary Inspector in the working of the Milk Clauses contained in the Manchester General Powers Act, 1899.

Manchester Cowsheds.—These number 233 on 119 farmsteads, and have a housing capacity of about 2,000 cows. This number, however, as stated previously, is very variable, and is considerably affected at various times of the year by many factors such as the price of country milk, price of cattle, the effect of these causes being more evident in the case of the men in a small way of business.

Two farms have been closed during the year, and as both of them were premises so situated as to be in the midst of dwelling houses, the end of cowkeeping in such surroundings is a matter for congratulation.

In the course of the regular inspection of the city farms, 398 visits have been paid and 691 inspections of cowsheds carried out.

Nothing of any special interest has arisen during the year. The start of reasonable cleanliness has been fairly well maintained, but the irritating lapses evident in every year have still been a feature, necessitating repeated fault-finding and spurring on to do better.

Manchester Cows.—The total number of inspections made of the City cows during the year was 7,361. The number of cows housed within the City boundaries is something short of 2,000. The exact figure at the last enumeration was 1,979. The full accommodation is never utilised.

The quality of the cows kept in the City has been difficult to maintain. For some time past the price of cows has been abnormally high, and the result of this has been to tempt many to purchase cows which are not of the high quality which we require in the City, thus leading to much annoyance on the part of the cowkeepers when found fault with, as they often have been. I do not suggest for a minute that the cowkeepers of the City have purchased diseased cows. This, I know, they avoid as far as possible; but there is a class of aged cows of which there are always plenty on the market which are comparatively cheap, and which at one time were regarded as the proper class to keep in City dairies. The same impression still remains in many places. It is, for instance, common to hear in many out-lying districts certain animals referred to as suitable for town

cows. Many causes have contributed to raise the price of cows, and it would not help to attempt a discussion of these causes, but for the sake of the dairy farmer it is more satisfactory when the supply and demand are more nearly equalised, and appearances tend at present to show that the trade is returning to its more normal level.

One cow suffering from tuberculosis of the udder was found in one of the City cowsheds, and was slaughtered, the carcass being condemned. Nine other cows were removed by my orders, and seven of these were also slaughtered for me to see, and in only one case was the carcass fit for food.

The Manchester Milk Clauses.—No changes have been made in the methods of working the Milk Clauses of the Manchester General Powers Act, 1899.

Samples of milk are obtained at the Manchester and other railway stations, or elsewhere within the City, by the Food and Drugs Inspectors. These are submitted to Prof. Delépine for bacteriological examination. All samples reported by him as having been found to cause tuberculosis are followed to their source at the farm by the Medical Officer of Health (or his representative) and the veterinary surgeon.

The veterinary surgeon examines all the cows on the farm, and takes separate samples from the cows having diseased or suspicious udders. All samples are taken in sterilised bottles supplied by Prof. Delépine, and every care is exercised to exclude accidental infections. These special samples are in their turn submitted to Professor Delépine for bacteriological examination, and in this way the fact of a cow having tuberculosis of the udder is definitely ascertained. Samples from cows found by clinical examination to have diseased or suspicious udders are treated in the same way.

Extensive use is made of control samples to ensure that the inspection and examination have been satisfactorily concluded, and that all active sources of infection have been removed.

Tuberculous Milk.—During the year, 519 samples of milk have been collected by the Food and Drugs Inspectors in connection with tuberculosis. Of this number, 513 were taken at the railway stations, and the remainder from carts coming in by road. The number of farmers represented in this total is 468.

Of these 468 farmers, 274 reside in Cheshire, and 17 of them (6·20 per cent.) sent tuberculous milk; 115 live in Derbyshire, and 10 of them (8·69 per cent.) sent tuberculous milk; 54 live in Staffordshire, and 3 of them (5·55 per cent.) sent tuberculous milk; 14 live in Lancashire, and none sent tuberculous milk; 4 live in Shropshire, and none sent tuberculous milk; in addition, 6 live in Yorkshire and 1 in Leicestershire, and from neither county was any tuberculous milk received.

The percentage of farmers sending tuberculous milk was 6·41—a slight increase on the figures for 1909. It is never satisfactory to record even slight increases, but I am afraid that we have now arrived at what may be regarded as the reasonable minimum under the present powers, and the figures are likely to fluctuate from year to year no matter how vigilant the authorities may be. That a definite proportion of diseased animals must escape detection is certain, and the point to be aimed at is to keep the proportion which do baffle detection at as low a figure as possible. The local authorities in many directions are simply "beating time," they carry out the, to them, only requirement of the Dairies, Cowsheds, and Milkshops Order, namely, the whitewashing required twice a year, and so far as anything else is concerned supervision may not exist. I am bound to exclude the county of Chester from the above statement, for their progressive supervision is maintained. It is limited in its scope it is true, but is far more than is carried out by other counties affected. It may be said,

however, that the time has certainly arrived when the systematic inspection of all the cows by veterinary surgeons appointed by the respective local authorities is now urgently called for from an agriculturist's point of view as much as from a public health aspect. Much evidence has now been accumulated as to the suppression of certain animal diseases, and from an economic point of view it is to be hoped that extensive measures, not necessarily of an extravagant nature, may be enforced for the suppression of bovine tuberculosis. From the experience which I have gained from the inspection of dairy stock during the past ten years, I am certainly of opinion, as I have repeatedly stated before, that the elimination of tuberculosis from herds selected in the first instance is a perfectly sound and business-like proposition, and one which would eventually prove to be greatly to the financial advantage of all concerned. The intolerant attitude adopted by many people to this great work is much to be regretted, but is only on a par with what actually occurs in all proposals of a progressive character; and because the experiences of a limited number of people in the earlier years were not satisfactory, it does not follow that the whole of the prophylactic measures proposed to-day are unsound. I have been tempted to refer to this question, as it would seem, if one can read the signs of the times correctly, that dairy farming is entering upon a period, permanent we may hope, of well deserved prosperity, and if there is anything which would tend to ensure prosperity it is to show to the consumer that everything which is scientifically possible is being done to get for him a clean and disease-free supply of milk. I believe that the growing sense of security in the consumers has something to do with the progress of the industry up-to-date, for there can be no doubt, and I can speak from information gained first hand, that slowly but steadily the price of milk has gone up to a point making the business of milk production more remunerative. Concurrently the consumption and uses of milk have enormously increased during the last ten years, and I should imagine, in the case of a city like Manchester, out of proportion to the growth of the population. From the farmers' point of view the enhanced value of milk is gratifying, though whether the actual ratio of profit is increasing in equal proportion is not very certain, for the price of most food-stuffs, etc., has gone up. There is, however, one gratifying feature about the whole business, and that is that judging as far as one is able it would appear that dairy farming, or should I say milk producing, apart from cheese-making, appears to have a great future in this country. The amount of milk required to supply the very large and for the most part very admirable milk factories in the country is becoming an extremely important factor in the production of milk. Practically we may say that the supply of whole areas is directed to such receivers who pay good prices with reasonable security to the vendor, and the ultimate effect is that the area from which milk is derived for a place like Manchester becomes wider, with the result that many whose knowledge of the trade is limited are tempted, particularly in view of the comparatively ready payments, to embark on dairying.

As much instruction as possible is given to farmers by the distribution of circulars from this office, and at the same time farmers are asked to supply particulars as to the number of cows on their farms, etc., and we received replies to our queries from 392 farmers. From the figures supplied, it is found that on these 392 farms there were 7,474 cows, giving an average of 19 cows per farm, and if the average number of cows on the 468 farms from which the milk was examined is worked out, it will be found that bacteriological tests have approximately been applied to the milk of good cows.

In the process of actual examination and re-examina-

tion of cows on the country farms during the year I examined 2,450, and of this number 24 were proved to be suffering from tuberculosis of the udder.

It is gratifying to report that for the first time since the work began no single cow which has been proved to be suffering from disease of the udder escaped. Every cow was slaughtered in my presence, and the carcasses were inspected as to their fitness for human food, and as a result 19 were condemned as being totally unfit, and 5 were passed. This I regard as one of the most important parts of our work, and ensures the definite removal of a proportion of the diseased cows, besides being an object lesson to the individual in whose possession they have been.

One farmer was prosecuted and fined during the year for having failed to notify to the Medical Officer of Health the presence in his herd of a cow suffering from marked tuberculosis of the udder. In this case an order prohibiting the sale of milk within the City was also imposed, and before it was removed a very stringent guarantee had to be given that the general conditions would be improved. This was necessary in view of the past history. The stock on the farm was a poor one, dirty, and ill-kept. I therefore thought it desirable to advise the Medical Officer of Health that it would be necessary to apply the tuberculin test to the herd, 36 in number, and this was eventually done. The test was applied in conjunction with the farmer's own veterinary adviser, and the net result was that 89 per cent. were found to re-act. As far as was possible the re-acting cows passed out of the farmer's hands, and gradually a new stock built up. The conditions have been much improved, and the farm is kept under constant supervision.

J. W. BRITTLEBANK, M.R.C.V.S., D.V.S.M.

MR. TROTTER'S REPORT TO THE CORPORATION OF THE CITY OF GLASGOW, 1910. [ABSTRACT].

I have the honour to present for your consideration the report of the work done by this Department during the year 1910.

The number of home and foreign animals slaughtered and inspected was 422,849, of which 79,362 were cattle, 5,971 calves, 39,724 swine, 307,784 sheep, and 8 goats.

A comparison of the returns for 1910 with those for 1909 show an increase in the number of home cattle and calves slaughtered of 2,816 and 622 respectively, and a decrease in the number of home swine, sheep, and goats of 10,157, 18,707, and 3 respectively. The number of foreign cattle slaughtered shows a decrease of 7,716.

The smaller number of animals slaughtered is not due to a reduction in the amount of meat consumed, but is the natural sequence of (a) the ever-increasing quan-

ties of frozen and chilled meat placed on our markets, and (b) the lack of a uniform system and standard of meat inspection. It may be pointed out that the attention of the Local Government Board for Scotland has frequently been directed to the unsatisfactory condition under which a part of the meat supply is prepared in this country. No improvement, however, has been effected.

TUBERCULOSIS.

The most frequent disease affecting home animals is tuberculosis.

Following the precedent of former, I submit first the following statistics regarding its prevalence:

It is unfortunate that our Government authorities have not inaugurated a scheme for the gradual eradication of animal tuberculosis. In other countries more or less successful attempts have been made, but in this country, with a few notable exceptions, our stock-owners and authorities have shown a marked indifference to the matter. This is deeply to be regretted, because tuberculosis is a preventable disease, and the longer eradication methods are delayed the more difficult it will be to checkmate its ravages.

It will be noted that since 1906 there has been a steady decrease in the percentage of home cattle affected. It cannot, however, be contended that tuberculosis is becoming less prevalent, and the reason for the decrease in the percentage is that fewer cows are being slaughtered in Glasgow. The number of cows in Scotland in the month of June in each of the following years was:

1905.	1906.	1907.	1908.	1909.
437,138	434,476	438,955	431,883	435,110

It cannot be urged, therefore, that the smaller number of cows slaughtered in Glasgow is accounted for by a decrease in the cow population. The reasons for this decrease are the larger quantities of frozen and chilled meats placed on our markets, and the lack of uniformity in the system and standard of meat inspection.

ANTHRAX.

During the year six cases of anthrax were discovered.

In each case a microscopical examination was made, and the nature of the disease was placed beyond dispute by the presence of large numbers of the *bacillus anthracis*.

The precautions prescribed in the Anthrax Order were duly carried out.

NEOPLASMS.

Towards the end of 1909 I was requested by Dr Bashford of the Imperial Cancer Research Fund to forward to the laboratory under his charge all neoplasms found during 1910 in the animals slaughtered in the city abattoirs for human food. Hitherto the work of classifying these tumours had been carried out by this depart-

PERCENTAGE AFFECTED WITH TUBERCULOSIS IN HOME AND FOREIGN ANIMALS SLAUGHTERED AT ALL THE ABATTOIRS, AND RESULTS OF ADJUDICATION.

	Slaughtered.	Affected.		Destroyed totally.		Destroyed partially.		Passed.	
		Per cent.		Per cent.		Per cent.		Per cent.	
Home Cattle	67,849	8807	12.98	1297	14.73	768	8.72	6742	76.55
„ Calves	5,971	24	.40	9	.37.50	4	16.67	11	45.83
„ Swine	39,724	2432	6.12	77	3.16	7	.29	2348	96.55
„ Sheep	307,784	...	...	...	...	...	...	...	...
„ Goats	8	...	...	...	...	...	...	...	...
Foreign Cattle	11,513	186	1.61	1	0.54	11	5.91	174	93.55

ment, but, with the view of furthering their enquiries into the nature of malignant disease, this request was acceded to.

Prevalence.

During the fiscal year, 164 animals were found affected. These comprised 162 bovines and 2 ovines.

	Slaughtered.	Affected.	Percentage.
Home Cattle	67,849	162	'23
Sheep	307,784	2	'0006
Swine	39,724	—	—

It will be noted that no member of the porcine species was affected, and that these diseases were much more prevalent in bovines than in ovines. Of every 419 bovines slaughtered, and of 153,892 ovines slaughtered, 1 was found affected by some form of neoplasm. The marked difference here shown, however, does not permit of the assertion that bovines are more subject to malignant disease, the discrepancy in the prevalence being, I think, due to the greater age of many of the bovines at the time of slaughter.

Cows are kept much longer than bulls, bullocks, sheep, or pigs. Many have attained an extreme age before they are consigned to the market for slaughter, consequently they have reached a period comparable with what is known as the "cancer period" of man.

Bovines 162 aged. Ovines 2 aged.

Classification of Primary Neoplasms in Organs and Tissues.

Liver.—Carcinoma	4	93
" Adeno	66	
" Alveolar	16	
" Columnar Cell	2	
Sarcoma, Alveolar	1	
" Osteo	1	
Adenoma	1	2
" Multiple	2	
Adrenal.—Alveolar Tumour	11	17
Carcinoma, Alveolar	3	
" Columnar Cell	1	
Sarcoma, Alveolar	1	
" Spindle Cell	1	13
Thymus.—Sarcoma	4	
" Alveolar	9	10
Rumen.—Carcinoma	1	
" Squamous Cell	9	8
Intestines.—Carcinoma	2	
" Columnar Cell	1	
" Adeno	1	
Sarcoma, Spindle Cell	4	
Ovary.—Carcinoma	2	7
" Alveolar	4	
Papillary Adeno-Cystoma	1	3
Kidney.—Sarcoma, Mixed Cell	1	
" Spindle Cell	1	
Carcinoma, Papilliferous Adeno	1	
Fascia.—Sarcoma, Spindle Cell	1	2
" Alveolar	1	
Thyroid.—Carcinoma	1	2
" Colloid	1	
Lymph Glands.—Sarcoma Alveolar	2	1
Eye.—Carcinoma, Squamous Cell	1	
Vagina.—Carcinoma, Squamous Cell	1	1
Vulva.—Granuloma, Giant Cell	1	
Palate.—Carcinoma, Squamous Cell	1	1
Tonsil.—Sarcoma	1	
Uterus.—Sarcoma	1	1

Rib.—Chondroma	1	1
Pancreas.—Carcinoma, Adeno	1	1
Undetermined.—Lymphoma	1	3
Sarcoma, Spindle Cell	1	
" Alveolar	1	
		168

VEAL SUPPLY.

Much of our veal supply is prepared outwith the city boundaries, and consignments of veal carcasses arrive at all hours by road, rail, and river. The age of the calves at the time of slaughter seldom exceeds seven days—the majority being two or three days old. They are, as a rule, prepared in unlicensed premises, where they are not submitted to any inspection to determine their fitness to be used as an article of human food.

During the year 534 carcasses were seized at railway stations, wharves, hide marts, etc.

It is satisfactory to record that there has been a marked improvement in the condition of carcasses arriving in the city since the present system of inspection was inaugurated, but there are still many ways by which this trade could be improved.

For instance, many carcasses are found, on inspection, to be undergoing decomposition. This is largely due to crass carelessness, either on the part of the consignor or carrier. Occasionally carcasses are consigned uneviscerated. This incomprehensible practice is probably due (a) to inability on the part of the consignor to disembowel the carcass, or (b) in order to bleach the carcass and make the flesh appear whiter. This practice of bleaching veal by the retention of the abdominal viscera in the carcass has been the cause of meat poisoning among consumers, and every effort is made to discourage it. Again, the slaughter of the calf is delayed until the vehicle which is to convey the carcass to the station is ready to start, no time being allowed for the flesh to undergo *rigor-mortis*. The result is that on arrival the flesh is soft, and the inner surface of the carcass is smeared with blood, thus presenting an unsightly appearance. Unfortunately, however, the mishandling of these veal carcasses is not confined to consignors, because during transit they are frequently subjected to the gravest abuse. They are thrown on to dirty platforms, tumbled topsy-turvy into waggons along with the usual collection of merchandise, and when they arrive at their destination they are again thrown on to dirty platforms or on to lorries.

In some instances, however, during the past few years, dealers, when consigning large numbers of carcasses, have made arrangements with the railway companies to provide them with hanging waggons. When this is done the carcasses arrive in very much better condition.

Owing to a popular outcry against the unsightly appearance of dead calves exposed to view of passengers, the railway companies some time ago issued a bye-law that no veal carcass was to be carried by passenger train unless it was covered.

Veal carcasses are consigned to this market throughout the year, but the season commences in February, and continues until May or June. On some days as many as 500 or 600 carcasses are received.

The majority are consigned to hide brokers, who distributed them among the retail trade. Inspectors are on duty at the different stations when consignments usually arrive, but owing to the hustle, imperfect lighting, and want of facilities, their inspection cannot be regarded as satisfactory. The premises of the consignees are visited at frequent intervals during the day, but as the morning consignments are delivered to the different consignees at the same time, and as carcasses are arriving at all hours of the day, it is impossible to ensure the inspection of every carcass. On the other hand, a carcass

may be inspected at the place of arrival and also on the premises of the consignee, thus entailing unnecessary labour.

A considerable number of veal carcasses are consigned to retail butchers. In some instances the consignees submit their consignments for inspection at one of the public abattoirs, but others do not, preferring to take upon themselves the onus of inspection, and plead, when any unsound meat is detected on their premises, that they had intended to submit it for inspection.

The improvements which ought to be effected include:—

(a) An age limit under which it would be illegal to slaughter calves for human food.

(b) The slaughter of all calves in a public abattoir.

(c) The prevention of surface contamination of veal during transit.

(d) The erection of examination stations to which all carcasses prepared outwith the city must be taken for inspection before being placed on the market.

(e) The inauguration of a system of meat marking to ensure that every carcass sold in the city for human food has been inspected.

INSPECTION OF FOREIGN AND COLONIAL MEAT ON BEHALF OF PORT LOCAL AUTHORITY.

All meat arriving at the Port from countries outwith the United Kingdom is inspected under the Foreign Meat Regulations issued by the Local Government Board for Scotland, in accordance with the powers contained in the Public Health (Regulations as to Food) Act, 1907.

During the early months of the year there were received several consignments of tierces from Canada, containing cow udders. An examination at the wharf showed that a proportion of the contents of the tierces opened were more or less decomposed. They were therefore removed from the wharf to premises in the city to permit of a thorough examination. The contents of every tierce were examined, with the result that, of the 66 tierces landed, only 5½ tierces were permitted to pass into consumpt, the remainder—60½ tierces—being destroyed with the consent of the consignee. The trade in cow udders has been discontinued.

During the month of September a steamer carrying meat from New Zealand and the Argentine arrived at the port. When the last portions of the cargo, consisting of quarters of beef and carcasses of mutton, carried in one of the holds, were discharged, their wrappings were observed to be more or less smeared with a black material resembling blacking. It was conjectured that there had been a leakage in some of the brine refrigerating pipes, and subsequent enquiry demonstrated the accuracy of this supposition. A cursory examination showed that the meat contained in the smeared wrappings was also discoloured. The meat formed part of parcels consigned to three traders in the city. It was impossible to thoroughly examine the affected consignments at the wharf, and they were therefore permitted to be taken to the Cold Stores under detention. A percentage of each consignment was taken for the preliminary examination, and it was found that, in addition to the discolourisation, some were bitter to taste. Portions were removed from the quarters of beef and carcasses of mutton, and submitted to Mr. Harris, the Corporation Chemist, to determine to presence of calcium chloride and arsenic. It was deemed advisable to test the latter substance, as the calcium chloride of commerce frequently contains arsenic. No trace of arsenic was detected, either in the first series of samples submitted or at any subsequent date. The presence of calcium chloride was, on the other hand, determined in a considerable number of samples. The quantity varied in amount—the largest found being 1.96 per cent.

SUPERVISION OF MILK SUPPLY.

The supervision of our milk supply cannot be regarded as satisfactory. The Corporation of Glasgow possess in Sections 24 to 27 of the Glasgow Police (Amendment) Act, 1890, unique powers so far as this country is concerned, but even these cannot ensure a pure supply of milk from healthy cows.

Following the issue of the Report of the Royal Commission on Tuberculosis in 1898, the Local Government Boards of England and Scotland in 1899 amended the Dairies, Cowsheds, and Milkshops Order, extending the word "disease," which had hitherto only applied to those diseases scheduled under the Diseases of Animals Acts, to cover tuberculosis of the udder of cows. Undoubtedly this was a move in the right direction, but, unfortunately, it is optional on the part of Local Authorities to adopt the Dairies, Cowsheds, and Milkshops Order, and thus this amended Order has been, to a large extent, inoperative. This inaptitude on the part of Local Authorities may have been due to the inadequacy of the powers granted, because they were only empowered, in the event of their veterinary surgeon detecting a case of tubercular mastitis, in order that the milk of the diseased cow

(a) shall not be mixed with other milk;

(b) shall not be sold or used for human food; and

(c) shall not be sold or used for food of swine or other animals, unless and until it has been boiled.

It must be admitted that it is impossible to ensure that the owner of the cow will carry out these instructions. The issue of such an Order can only be described as a half-hearted measure. It is simply tinkering with a vital question affecting the health of the whole nation. A pure and wholesome supply of milk is a national necessity, and in all future legislation the Imperial Authorities ought to see to it that every Local Authority discharges its duty in this all-important matter. No Local Authority ought to be in a position of either quietly ignoring or carrying out this all-important work in a half-hearted fashion. The recent report of the Royal Commission on Tuberculosis has emphasised in no uncertain manner the importance of this question, and every endeavour ought to be made to detect at the earliest possible moment every cow affected with an open form of tuberculosis.

INSPECTION OF MILCH COWS (CITY).

The cowsheds in the city were visited on 528 occasions, and the milch cows housed therein were examined, with the result that 69 were found affected.

INSPECTION OF MILCH COWS (COUNTRY).

Farms situated outside the city were visited on 540 occasions, and 15,363 milch cows were examined. 157 were found affected.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the Grand Hotel, Manchester, on Sept. 7th, the President, J. W. Brittlebank, Esq., Manchester, in the chair. The attendance included Messrs. Ferguson, Whitehead, A. Munro, jun., Carter, Stent, Ellis, Dobie, Wolstenholme, Woods, Mattinson, Taylor, Locke, Price, Michaelis, Wilson, and Ackroyd.

Apologies for absence were received from Messrs. Faulkner, Packman, McKinna, and Darwell.

The minutes of the last quarterly meeting were taken as read on the motion of Mr. Stent, seconded by Mr. Carter.

The PRESIDENT reported having attended, along with Mr. Locke, the dinner of the Liverpool V.M.A. They were received with the utmost hospitality and had the pleasure of listening to an interesting address on agricultural education by Mr. John, M.P. The whole function was a great success, as was only to be expected when they considered who had the management of it.

Mr. CHARLES SECKER SMITH, Barnsley, and Mr. JOHN HOLROYD, Blackburn, were unanimously elected as members of the Association.

Correspondence.—A letter of resignation under date of 18th July, inst., from Mr. E. S. Gubbin, Hyde, was read. The resignation was due to removal from the district and was accepted with regret.

A letter of resignation was received from Mr. W. S. Worthington, Wigan. This was due to ill-health, and it was resolved that a letter be sent to Mr. Worthington regretting the cause of the proposed resignation and asking him to reconsider the matter.

A letter dated August 16th from the Editor of *The Veterinary News* was submitted in reference to the fund which that paper is organising for the purpose of assisting Mr. William Kirk in the appeal raised by the London County Council to compel veterinary surgeons to pay for the use of the College crest.

Mr. LOCKE proposed that the matter be referred to the Council.

Mr. CARTER expressed the opinion that they ought to subscribe to the fund. Personally he intended to do so, and he hoped every member would. He agreed with the proposal to refer the matter to the Council with a recommendation that a sum of two guineas be forwarded towards the fund.

Mr. TAYLOR asked what the state of the litigation was. The Secretary replied that Mr. Kirk had already won the case, but the London County Council were appealing and threatened to take the case to the highest Court if necessary.

The SECRETARY reported that their invitation to the National Veterinary Association to hold their next annual meeting in Lancashire had been accepted.

The PRESIDENT moved that the matter be referred to the Council to make such arrangements as may be necessary.

A letter from Mr. Gofton, Hon. Sec. of the Committee of the National Veterinary Association was read. This conveyed the resolutions passed at Carnarvon on July 25, respecting the arrangements to bring the amended rules into operation at the annual meeting of the Association to be held in 1912, and also ensuring that existing members of the National Association shall become members under the amended rules.

The PRESIDENT pointed out that the Lancashire V.M.A. had already expressed their intention to associate themselves with the scheme, and there was no necessity to pass any formal resolution.

Other business.—Mr. CARTER asked what was being done towards subscribing to the International Congress to be held in 1914. Other societies were already contributing.

Mr. LOCKE replied that the matter had already been informally brought before the Council by Mr. Lawson, and it was decided to leave it for consideration at a later date.

Mr. WOLSTENHOLME rose to announce the death on Sept. 5th of Mr. H. D. Chorlton, a former Secretary of their Association, and a member for many years. A vote of condolence with the widow and family was passed in silence.

The PRESIDENT then reported the sad news of the death of Prof. Owen Williams on Sept. 6th. The Professor, he said, was a gentleman known intimately to many of them and held a honoured position in the profession. Personally, as an old student of the New Veterinary College, he felt the loss very deeply. He

would remind the members that Prof. Williams was an honorary member of the Lancashire V.M.A. and the Society had suffered a grievous loss. His sympathies went out to the widow, and he thought they could do no less than pass a vote of condolence with her in her trouble.

Mr. TAYLOR said that having known Prof. Williams so many years he desired to associate himself with the expressions of sympathy, and trusted that a letter of condolence would emanate from the Society to Mrs. Williams. Prof. Williams had done a great deal for the profession, and he (Mr. Taylor) was sorry that the Professor had not lived longer to keep his father's name in actual remembrance amongst them.

Mr. CARTER also wished to associate himself with these remarks. He had known Prof. Williams in boyhood, and had been associated with him ever since.

A vote of condolence was passed in silence, all present standing.

The PRESIDENT here desired to say how glad he was to see Mr. Taylor amongst them again after his serious illness.

PATHOLOGICAL SPECIMENS AND CLINICAL CASES.

Mr. NOEL PILLERS: I have here a few slides, and although harping on the old subject of parasites, I think there is a little clinical interest attached to them. The first three slides are of the dog flea. There is an old specimen which shows the usual character of the dog flea which is distinguished by its combs. The second slide shows the eggs, and the third is the larval stage. A veterinary surgeon was consulted concerning a little Pomeranian dog from which, whenever it shook itself, a number of pearl white bodies dropped. These bodies measured about .8 mm. He also found on the dog two or three small things which looked very much like maggots, about 4 mm. long. He wished to know what they were. The pearl white bodies are the eggs of the dog flea and the maggots are the larvae. It has been shown that in long-haired dogs it is possible for the whole life history of the flea to take place on the host. The adult lays the eggs, and according to the temperature these eggs hatch out in from six to twelve days, and after another five or six days, bringing the time up to about seventeen days, these larvae turn into a nymph in a cocoon and this soon turns into an adult.

The fourth specimen is a small nematode from the caecum and colon of the horse, viz., *Probstmayria vivipara* sometimes called *Oxyuris vivipara*. It is two to three m.m. long, and is so small as to escape observation unless looked for microscopically. It is of interest as it is probable that it is sometimes mistaken for immature forms of some of the larger nematodes of the horse's bowel.

Mr. WHITEHEAD submitted a specimen of tuberculosis of the intestine of an old cow. He brought it forward as being from the most marked case of ulceration of the bowel he had ever seen.

Mr. WOLSTENHOLME gave the history of a mare which died from dilated and hypertrophied heart. On first receiving the animal in hospital on January 22nd she was practically pulseless—it was not possible to feel more than a tremor. Her temperature was 101.8, pulse 72, and very weak respiration, and this went on from the end of January to 30th May, when she had colic and died. Post-mortem examination revealed simply this dilatation and hypertrophied condition. The mare was in the prime of life: the heart weighed 20lb. The only symptoms were this pulselessness, raised temperature 100 to 106, and somewhat increased respiration. She ate and lay well, her appetite was good, and the bowels were normal all the time.

Mr. STENT reported cases of poisoning in pigs from eating green potatoes. The owner had picked up some green potatoes lying on the land and given them to his

pigs (three weeks old). Half-an-hour after feeding they began to be ill, and two died. There was no eruption on the skin, and a post-mortem revealed nothing. He had seen a similar occurrence in a pony, which did not end fatally, although the animal had been very ill.

He desired to hear an opinion as to the efficacy of nuclein in the treatment of pneumonia. He had used it hypodermically on three horses out of seven under his treatment, and these were longer in recovering than those not so treated. In treating dogs with it he had formed a very favourable opinion of its use. He had recently treated a Great Dane suffering from bad distemper; he gave an injection of 4 c.c. of nuclein and the following day the hemorrhage ceased; two days later the appetite returned and the animal did splendidly.

Mr. TAYLOR had found nuclein of marked assistance in cases of pneumonia in horses. He found that the best time to employ it was at or during the crisis.

Mr. MATTINSON had also used it with success. He reported a case where he had been engaged to castrate a horse. The owner asked him to take the colt away, but on arrival Mr. Mattinson found it to be not in a condition for castration so turned it into his own field, and told the owner, who requested that the colt should remain there until ready. About a month later he was surprised to receive a message that the colt was lying dead in the field. A post-mortem examination revealed the cause of death to be due to yew poisoning. The yew trees were situated over the fence on another person's estate, and the question of liability arose. Legal opinion was taken, and was to the effect that the owner had no claim for the loss inasmuch as the colt had been placed in the field by favour and not for reward.

He also reported a singular case very suspicious of foot-and-mouth disease. This was a cow, recently calved. The cow could not bear the mouth or tongue to be touched, and could not eat. Treatment was ineffectual, and examination after death revealed only this sore mouth.

Mr. TAYLOR submitted a question recently put to him—Is a horse that will not lie down an unsound animal? A person bought a harness horse warranted sound and a good driver. There was no fault to find with either of these conditions, but the animal refused to lie down. Mr. Taylor caused amusement by stating that the reply he gave was that it might constitute unsoundness or it might not, but he could not tell without examining the animal as to any abnormal condition or disease. Mere refusal to lie down in the absence of any symptom of abnormality did not appear to amount to unsoundness. The solution was that in a few days the horse did lie down.

Mr. CARTER asked what the stable was paved with. He had known fresh horses brought on concrete that had been months before they would lie down.

Mr. WOODS stated that he had bought a pony that would not lie down in the stable, although it would do so in the field. The animal was perfectly sound in every way.

The PRESIDENT reported a case occurring in the course of his work which showed how difficult it was sometimes to diagnose tuberculosis of the udder, a difficulty which is now becoming very common in his district, as owing to the supervision exercised the farmers generally will not keep a cow which is in any way suspicious. In this particular case, occurring on a farm in Cheshire, the sample of milk taken showed that tuberculosis had been produced in the inoculated animal. On visiting the farm 46 cows were examined, but he could find nothing to direct his suspicions to any particular cow. Careful enquiries as to the disposal of any cows prior to his visit elicited nothing, and finally he came to the conclusion that the information was unreliable, and that a cow or cows had been sold. However, a mixed control from

the whole herd was obtained, and on being submitted to the inoculation test was again found to cause tuberculosis. He again visited the farm, but was still unsuccessful in discovering any suspicious cow. The herd was then divided into groups, and five samples representing each the milk of eight cows, and one the milk of six, were taken. Subsequently the milk of one group was found to cause tuberculosis, and on visiting the farm again one cow (in good condition) showing only the slightest possible symptoms of udder disease was found. The whole lesion discoverable by manipulation would not have covered a sixpence. The remarkable feature about the case was the length of time (three months) which elapsed before even suspicious lesions were discoverable.

Referring to the inadvisability of expressing decided opinions, he had a case quite recently where he diagnosed tuberculosis of the udder in a heifer—a comparatively rare occurrence, it is true. The lesions were certainly very slight, and the heifer appeared in good health, although examination of the chest gave decided signs. The farmer was somewhat upset, and called in a certain practitioner in Cheshire to examine the heifer, which he did, and subsequently stated that it was ridiculous to condemn the beast, as he was as sound as a bell; and he made some very uncomplimentary remarks regarding the clinical skill of many veterinary surgeons and of the speaker in particular. However, the gentleman (?) was invited to attend the post-mortem, but failed to do so and sent no excuse. Incidentally it was found that the diagnosis was amply confirmed, and the carcase was condemned as unfit for food.

He did not for a minute complain about differences of opinion, it was only natural that people should differ, but he did think that it was a gratuitous piece of impertinence for one man to pass reflections upon the ability of another veterinary surgeon, even although the latter were the occupant of a public position.

Mr. WOLSTENHOLME instanced a case of a horse having been sent to the forge. As they were busy a veterinary surgeon suggested that the horse should not be allowed to stand in the street, but offered the use of a loose-box. The offer was accepted. The box was a good size and well paved, but when the horse was brought out it was found to have got a pastern split in three places. The owner of the horse wanted compensation from the owner of the box.

The meeting was closed by a vote of thanks to those members who had brought up cases for discussion, proposed by Mr. Price, seconded by Mr. Locke.

G. H. LOCKE, Hon. Sec.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

(Continued from p. 170.)

ROARING AND WHISTLING.—DISCUSSION.

Prof. CRAIG was loudly applauded on concluding the reading of the paper.

The PRESIDENT remarked that they had had a very interesting, not to say elaborate paper, from Prof. Craig, which offered plenty of food for reflection. He had put plenty of material before them to ensure a good discussion. There were present a good number of practitioners whose opinions were worth having, and he was sure they would have reason to rejoice that Prof. Craig had brought forward the paper, because he had little doubt that many present were anxious to give their opinion upon this debatable subject.

Mr. McKENNY said that immediately after hearing so able a paper as that read by Prof. Craig on so interesting and important a subject that it required due considera-

tion previous to seriously discussing the various questions that had been raised, especially as there was great diversity of opinion or many of the questions, and general definite conclusions had not been established relative to them. He therefore proposed that the discussion should be at least extended until the next meeting of the Association. However, on the present occasion he noticed that Prof. Craig in his remarks relative to the causes of whistling and roaring, omitted to mention the affections arising from gastric troubles, such as indigestion, etc. The Professor told us that on this occasion he wished to confirm his remarks to "whistling and roaring" resulting from paralysis of the recurrent laryngeal nerve, but in doing so had omitted to mention the origin of the nerve—pneumo-gastric—and if he had done so it was a serious omission. Mr. McKenny was not certain that it had been omitted, but he was fairly certain that in the enumerating of the diseases affecting the nerve he had only mentioned those of the respiratory organs, and had not cited the gastric derangements. Thus if the subject is to be considered in its entirety, if the causes of paralytic whistling be only considered as arising from diseases affecting the respiratory organs, most erroneous conclusions would be arrived at, as paralysis of the recurrent laryngeal nerve is due to affections ensuing from derangements of the pneumo-gastric nerve. Therefore as this nerve is common to the lungs and stomach, ailments affecting these organs must be considered to arrive at correct conclusions on the subject. Without this knowledge there are many important facts which we could not explain, but with it we can readily understand such matters as why whistling arising from chronic disease of the lungs more seriously affects a horse's power of endurance than if the abnormal sounds were due to gastric affections. Granting either organ has become chronically affected, whether whistling has taken place or not, the effect on a horse as to its capability to perform its requirements are vastly different in each case, that is, allowing that the horse otherwise is in good condition.

The PRESIDENT reminded them of the questions Prof. Craig had asked—What is roaring? What are the symptoms? What is the cause of the sound? What are the predisposing and exciting causes? and For what diseases may it be taken?

The PRESIDENT then introduced two gentlemen who arrived at the meeting, Dr. McCall, of the Board of Agriculture, and his brother, Prof. McCall, of Glasgow, who were heartily welcomed.

Mr. CARGILL PATRICK remarked that they had listened to a very interesting paper. Prof. Craig had put a very difficult problem before them to solve. He thought the causes were so numerous and varied that they were quite in the dark as to the causes of roaring and whistling, as they got it in so many different forms. They sometimes had it due to the condition of the stomach. He had known cases where you could bring out a horse and hear him across the street whistling, and after half-an-hour he might be sound. For that reason he did not think for a moment that he would attempt to solve the question at all. He did not agree with Prof. Craig's definition of roaring. He said they only got it during certain stages of respiration. He considered roaring was an abnormal sound—in either inspiration or expiration. In other cases they had grunting taking place, which was supposed to be sometimes due to consolidation of the lungs. A great many cases of roaring were due to some nerve degeneration. They could have an abnormal sound due to the thickening of the mucous membrane. So many different points had been brought forward that he thought they would want to read the paper, and take up the points and discuss them. It was due to Prof. Craig to do that in order to give his paper justice; the points could be discussed

as fully as they should be. He suggested that it be brought forward at the next meeting for discussion.

Mr. P. D. REAVY seconded Mr. Patrick's suggestion.

Mr. MASON said he was sorry he was not present to hear the whole of the paper, but he was interested in Mr. McKenny's remarks, although it was difficult to follow him through his meanderings on the pneumo-gastric nerves. He was not sure if Prof. O'Connor was present, but if he was, he would like to hear his experience of the new operation.

Mr. WINTER said it was hardly fair after a hard day at the show to be expected to answer these questions. There was no question as to the excellence of the paper. He agreed to the suggestion that they should get a little more time before they answered the questions. There was one point they might touch on at the next meeting, and that was a point which had a legal aspect. It was as to exact time that roaring or whistling may begin. There was another question that puzzled him, and that was if it was due to changes in the nerve tissue and the paralysis of cartilage connected with the vocal cords, why would a horse whistle at first and subsequently go sound. He knew a case where Mr. Patrick rightly rejected a horse for a whistler and he immediately afterwards galloped perfectly sound. He had seen horses rejected at shows, which galloped sound immediately afterwards on appeal. Both opinions were perfectly right, and yet the horse was wrong. He had had some bitter experiences of whistling. He had a good horse and rode him in the morning. A customer came along and bid him a good price, which he refused. He rode the horse again in the evening and he was wrong, and wrong ever afterwards. It is a question—Was that horse a whistler from nerve disorder or concentration of the mucus in the throat. Does a whistler ever recover? It was a well-known fact that whistlers and roarers did recover. In that case what was the whistling due to? He thought it was due to some tumefaction of the larynx pressing on the nerves. Then, again, whistling became incurable. It was a point they could never come to agreement upon, because they could not examine the organs involved. He did not know if conformation had anything to do with it, but there was no doubt that heredity had had a great deal to do with it. Whether the tendency was hereditary or the disease he did not know. There was a celebrated sire in a stud they all knew and most of his progeny turned whistlers and bad roarers. He understood the new operation was tabooed—rather unfortunately, because they might get information from men who had tried it. In opening the larynx they saw different conditions. In a horse which was a bad whistler or roarer they sometimes saw little change. He hoped a discussion on the paper would be arranged on a future date, so that they might not be tied down to the questions that Prof. Craig had asked.

Mr. HOWARD was of opinion that the Association was to be congratulated on having such a paper before it. It was a troublesome disease. Prof. Craig had given them a definition of roaring, but he did not think it was the definition accepted by the everyday workman. Unfortunately the profession did not hold an opinion of its own; it was very considerably mixed up with the opinion held by the general public and horse-owners. The accepted definition of whistling was that it was an abnormal sound produced during expiration or inspiration by the animal if put to severe exercise. It was for the veterinary surgeon to say what that sound was. The ordinary public they had to deal with had that as their notion of roaring, and it was one of the aspects of roaring that he would like to be discussed and to be cleared up, because he thought it would do good to members of the profession who had to examine horses as well as to the public who had to buy them. One of the greatest benefits accruing at any time to the profession followed

when they were the means of educating the public to understand better what they had to do. He thought the public generally recognised when they gained any benefit from the profession. It was a common practice of veterinary surgeons when examining a horse, and it was expected by the public that if that horse made a noise of whistling or roaring it had to be cast. That was perhaps, the most unfortunate aspect of the whole matter, because they all knew of horses which sometimes made a noise, and afterwards when put to severe exercise, would be found to be more or less right. They all knew it was a common thing to get a horse to go and have a ride, and he jogged away out of the yard and they thought he made a noise. Then they got into the field and did three miles over the country, and never heard anything. He always thought such a horse was sound, but it was not fair to the client sometimes. If he passed such a horse as that sound, as he believed him to be, someone else came along, and because he heard that little noise cast him. So the client suffered. Prof. Craig had answered very extensively the questions he put himself. He had classed strangles as a disease of the respiratory organs, and one which was often-times followed by roaring. He (the speaker) did not regard strangles as a bad disease. With regard to heredity of roaring, he thought the consensus of opinion seemed to be that heredity was indeed very well proved with regard to the transmission of roaring. He thought there were several cases on record that horses had made good recoveries from roaring and whistling, and after considerable time of being roarers and whistlers. He did not say it was very usual, but it was common enough with horses that became roarers after such affections as strangles. Horses from good stock had a chance of becoming sound and well again. What part did Prof. Craig think was played by hot climates on the state of the larynx? Some well-known roarers had left Ireland and England, and when they got to places like South Africa, South America, and Australia they became sound. (Applause).

Mr. MAGEE said that Prof. Craig had asked several questions, but that many need not be answered, as he had answered them himself. For instance, he asked "What are the predisposing and exciting causes?" He thought Prof. Craig had mentioned every one of them. With regard to the first question—What is roaring?—he was inclined to agree with Mr. Patrick and Mr. Howard that it should not be looked on as an abnormal sound alone, because he was inclined to be of that belief until about a year ago when he met his first roarer, which made its first sound in expiration. He had to gallop him before he was satisfied that he was roaring. He was not a usual case of roaring, but he was roaring during expiration.

Although the subject of the new operation was not to be discussed, there were a few things in connection with it that had a bearing on the paper, and one was in connection with the horse he was speaking of. He operated on the horse, although he had not much hope of recovery, but it eventually made a complete recovery. After three months he made an abnormal sound, but a month later he was perfectly sound. In that case the left arytenoid cartilage and the vocal cord was only slightly affected. They were not badly paralysed. Another thing the new operation had revealed was that it did not follow that because they found on looking in the larynx of the vocal cord or the arytenoid cartilages that the trouble was not there. He had done a number of these operations and found that Prof. Woodridge was wrong. He knew a horse which roared owing to strangles. He was asked his opinion as to the advisability of operating on him. He thought at the time that a horse that became a roarer owing to strangles was not likely to yield to operation. He thought it was worth trying, however, and operated about three months

ago. He examined him last Thursday, and he would now put him before any veterinary surgeon to be galloped for his wind. He had hard luck over the horse, because he nearly went before Mr. Allen. He was called in by the judges for a prize, but did not get one as he was thick about the neck. He would be able to tell Mr. Allen that he had passed a horse which was a roarer.

Mr. ALLEN: I bet you 5/- to £20 he is not sound.

Mr. MAGEE: I bet you if I put him among five other horses you will not pick him out.

Mr. ALLEN: Done.

Mr. MAGEE said he wondered why Mr. Allen examined all the throats, especially as he did at the Navan horse show. He would bet Mr. Allen on another point—that he would not show him the wound he made in the horse's throat.

Mr. ALLEN: I bet you a sovereign I will.

Mr. MAGEE: Only if you shave the neck.

Mr. Magee, continuing, remarked that the horse had been crabbed by people who had not seen the operation and it was not fair. He supposed the symptoms of roaring were hearing an abnormal sound of roaring and whistling, and also grunting as a rule.

The subject of the grunting was an interesting one, too, and was a subject on which there would always be a difference of opinion. When he was in the London Veterinary College Prof. Macqueen, an eminent veterinary surgeon, said that grunting had nothing to do with whistling or roaring or roaring. At the time he believed that, but as he got experience he had changed his opinion. He was conscious of the fact that although he might be casting horses which were grunters as not being sound in wind, the horse might remain sound all his life. Therefore grunting was not a sign of whistling and roaring, or that the horse would become a roarer or whistler. What is grunting? That was a question he had never heard asked at a meeting, nor answered. The conclusion he had come to was that grunting was, as a rule, due to the inability of the horse to close the glottis on the arytenoid cartilage. If a horse had perfect use of the epiglottis he would hermetically seal the larynx. He thought grunting was the vibration of the epiglottis with the arytenoids.

With regard to strangles he had never seen a case of it affecting the respiratory system. He knew it did often lead to pneumonia and pleurisy. He considered that they should postpone the discussion to a further meeting, and thanked Prof. Craig for his paper. (Applause).

Mr. HEALY said he had the experience of buying a horse for £18. He was a roarer and was cast by a veterinary surgeon. He (Mr. Healy) hunted the horse for two seasons, and then it took cold. Blisters on the throat followed, and he was put to grass. The following season he became a sound horse and he was sold for £100, having been passed sound. He would like to know the cause of roaring in that case. Practically there was no test to find out what was the cause of roaring.

Mr. J. B. DUNLOP said he thought in bad cases or aggravated cases, roaring occurred during inspiration and expiration. There was no doubt that the predisposition to the disease was hereditary. He had a considerable amount of sympathy with what had been said about grunting. It was a premonitory symptom of roaring. There might be a certain paralysis of the muscle which expanded the arytenoid cartilage and the larynx was caused to contract, and then a sound was emitted. He had known cases of roaring to recover—several cases.

Prof. M'CALL, after expressing regret that he did not hear the paper read, said he had listened to some of the remarks and there were one or two points he would like to touch upon. He thought they, as a profession, should devote some time to the discussion of roaring. The more he saw of the disease in its various phases the more he was inclined to the opinion that there were

different opinion which had been confounded by many. They were led to believe it was owing to abnormal conditions of the recurrent alteration of the larynx. There were so many conditions which might give rise to roaring which was distinct from what was ordinarily recognised as roaring. The time was opportune for such meetings as they had that night. A speaker had asked if grunting was a symptom of roaring. He did not know what the feeling of the meeting was, but he thought they might get a horse which was a distinct grunter, but when they galloped him he seemed to be perfectly sound. High conditioned horses for show purposes often make a noise to a stick. One gentleman made a reference to strangles as being not a disease of the respiratory organs. He could not agree with that, because it had been pretty well proved that strangles was a bacterial disease which attacked the respiratory gland.

Prof. DUNCAN said that with regard to the aspect of heredity, Prof. Craig's paper was marked with a caution characteristic of his countrymen. He had chosen ground for battle and wished to hold up the position he had chosen. The part that heredity played in this case seemed to be one of interest. Prof. Craig had said that the disease was undoubtedly hereditary, and he thought many would bear that out. If heredity was of the nature of predisposition it seemed to be very vague. He did not know exactly what predisposition was in the case of heredity. How could a horse be predisposed to strangles or influenza?

Mr. McKENNY was pleased that the Chairman had allowed them to speak a second time in this discussion. Prof. Craig had asked them to define the sounds of whistling and roaring, but each of us unfortunately formed our own opinions as to the sounds, therefore, at present it would be impossible to give a definition that would be generally accepted as correct, all we agree to is that the sounds are abnormal, as for instance the Professor in his paper set forth that in true whistling the abnormal sound was always in the inspiration, and all the speakers with the exception of one agreed with him, and that gentleman definitely said it was not always his experience, and he cited two cases that recently came under his observation, and told us that those two horses were very bad whistlers, and it was during expiration altogether that the abnormal sounds occurred. He also informed us that he performed the new operation on both of these horses, and when he opened their larynx in neither did he find any abnormality, and the arytenoid cartilages were quite active. Yet he stripped the ventricles of both horses and they became perfectly sound. Taking all that Mr. Magee had said into consideration, he (Mr. McKenny) was of the opinion that these horses were not true whistlers, and that the operation should not have been performed, and that they would have become sound equally as well without it. Under such circumstances a definition of the sounds of whistling, and many other matters pertaining thereto, could not be satisfactorily agreed on. Indeed each individual seemed to form his opinion at the time of examining a horse. Therefore, in considering the subject from a scientific and practical point of view, it is most essential to bear in mind that paralysis of the recurrent laryngeal nerve can arise from diseases of the lungs and stomach. Relative to the cases in which the new operation should or should not be performed, Mr. McKenny would have liked to refer to this matter, but as the Professor in his paper requested us on this occasion to confine our remarks to the questions which he had submitted, and not to introduce the subject of the operation. As to whistling being hereditary, Mr. McKenny was of the opinion that it undoubtedly was handed down from parents to their offspring, but in this age of enlightenment this state of matters is said to be predisposing influence and not heredity, all

because we fail to find the micro-organism of what used to be called hereditary diseases.

With most of Prof. Craig's remarks Mr. McKenny agreed, and he felt greatly indebted to him for the great trouble he must have taken in compiling the paper.

Mr. MAGEE said that speaking of the five-year-old horse which had strangles the vocal cords were working perfectly. In his opinion the horse became perfectly sound. If the arytenoid cartilage was sound the trouble must have been somewhere else. The explanation possibly was that the left or right vocal cord, after the horse had been galloped, either one or both of these cords became tired, and then they made abnormal sounds. That idea occurred to him before he met Prof. Hobday, and he said he considered that was the explanation too. As regarded the question, What is roaring and whistling? to answer that properly was practically an impossibility.

Prof. WILLIAMS, who was received with applause, in response to a request from the Chairman, said he considered it a great honour to be asked to speak on one of the most important subjects that the profession at the present time was wrestling with. As regarded the question, What is roaring? he thought he had the sympathy of the profession in saying that it was entirely an indefinite affection of the horse. Roaring to all of them was simply an abnormal sound which might be due to at least one of half-a-dozen or more affections. The expiratory sound was not to be classed with roaring. There was a sound which caused confusion with younger men than he saw there which was known as "high blowing." They could say a horse was a roarer and then proceed to find out what was the cause of his roaring. The cause might be removable, or a cause of roaring might be a matter requiring surgical interference. It might be perhaps the removal of tumour paralysis owing to a diseased bone or tooth, and unfortunately—and he said it advisedly—unfortunately though the profession had never laid down a hard and fast law what roaring was, they had come to the conclusion that when they saw a horse was a roarer he had a laryngeal affection. He differed from that. It was for the profession to lay down a correct definition of the term, or introduce a new term. Roaring meant so many things, and it was absurd for a man to say that because a horse roared it was unsound. One thus condemned a good horse which might be all right in a couple of days. He appealed to the profession to come to a definite definition of what roaring was, as he thought they knew the symptoms. As to what were the predisposing and exciting causes, he thought he had dealt with that. He was a strong believer in heredity with regard to roaring. In his own experience he knew a large number of cases in which one or other of the parents was unsound in wind, and the majority of the progeny became unsound in wind. If anyone brought a horse to him which had an unsound dam or sire and it grunted, if he were told that the parents were wrong in the wind he would not put the grunt down to stomachic affection, but as the premonitory condition of a permanent roarer. He appealed to the Association to seriously try and define the term "roaring," and get it generally accepted by the profession, so that with these transitory affections they should not condemn a horse as a "roarer," but have descriptive names for the afflictions.

Prof. CRAIG, in reply, said he thanked them very much for the kind reception they had given to the paper. His chief reason for writing on roaring was to glean information, and the information he wanted and had obtained was as to what the profession in Ireland considered the disease to be. Horses had been put down as roarers and whistlers and been recommended for laryngeal operations—and why? Because presumably they had a disease of the larynx. Now he heard that any horse who made a noise from whatever cause was a

roarer or whistler. Could an operation be of service in all these cases? It was time an attempt was made to distinguish between these various diseased conditions causing abnormal respiratory sounds. He defined the terms roaring and whistling in his paper. No doubt from the point of view of examination for soundness it was important that abnormal respiratory sounds should be noted, and no horse making a noise should be considered sound, but when it came to the recommendation of horses for operations, then a selection should be made. He thought such a selection was necessary in order to prevent what appeared to be theoretically the most hopeful operation yet recommended for roaring and whistling as he defined it, from getting into ill repute and becoming unjustly condemned. He was sorry that some attempt had not been made by practitioners in Ireland to distinguish between the causes of these abnormal sounds in the respiration of a horse. He did not know that he had very much criticism to reply to, and the reply he had in most cases was to refer to the paper. Most of the points to which reference had been made had been noted there. He thought they were too apt to think that a disease which was considered by their predecessors to be hereditary was to be put down as hereditary once and for all, and they were to accept it and never question it again. That was why he wanted information on that point. There was, he was sure, plenty of information to be obtained from the practitioners there that night, but they seemed afraid to give it. With regard to Mr. Winter's definition of whistling which disappeared after a run, he thought he (Prof. Craig) must have referred to that sort of whistling in another way. He was told by Mr. Howard that recovery had taken place from roaring and whistling. But he presumed that he did not mean the roaring and whistling which was defined in the paper. No doubt cases did arise where an abnormal sound was produced, and after a time the inflammation disappeared and the horse became sound. These were the cases often put down as roaring and whistling. Occasionally recovery did follow true roaring and whistling. He had heard of horses being sent abroad and recovering. Plenty of instances were given in which the progeny of these whistlers or roarers taken to South America say, or to California, and yet the progeny did not become affected. He was very much interested in what Mr. Magee had to say. He could not explain by the operation the recovery in the case he referred to. He referred to grunting. Some grunters might become roarers, and others remain perfectly sound.

Mr. MAGEE: Where does the grunting come from?

Prof. CRAIG: The larynx.

Mr. MAGEE: What part of the larynx?

Prof. CRAIG: The glottis.

Prof. Craig, continuing, said with regard to the horse mentioned by Mr. Healy, he would like to know what was the nature of the sound produced, whether it was made during inspiration or expiration. He hoped that at the next meeting, when the discussion would be continued, that the practitioners would come forward more readily to give their considered opinions and experiences on this important condition. Up to the present apparently sufficient care had not been taken in the selection of cases for removal of the laryngeal ventricles, and it was right that they should consider which cases should, and which should not, be operated on.

In conclusion, he thought it was hardly fair to the new operation that all horses making abnormal respiratory sounds should be operated on or recommended for the operation. (Applause.)

Mr. McKENNY proposed a vote of thanks to Prof. Craig for his very able and interesting paper. He deserved a second vote of thanks for his very clever reply to the speakers, indeed it was the keynote to the whole

subject, and if the matter were taken up and considered on the lines set down by Prof. Craig, he was certain that before long the profession would have more exact and definite knowledge of the subject of whistling and roaring which has been, and is at present, a subject of endless differences of opinions to professional men.

Mr. WINTER seconded the motion, and remarked that it was impossible to give a definition on paper of roaring and whistling. The paper had provoked a most interesting discussion, and he hoped it would be continued on a future date. (Hear, hear.)

The vote of thanks was passed, and the Chairman in conveying it, said that the discussion would be resumed at the next quarterly meeting when they had had time to read the paper in print. He thought it would add to the effect of the discussion if at the same time the results of operations performed on horses, suffering from roaring were given.

On the motion of Prof. Williams a vote of thanks was passed to the President for his conduct in the chair.

The meeting then terminated

Hydrophobia from Fox Bite.—Death of a Master of Hounds.

An extraordinary case of death from hydrophobia, caused by the bite of a fox, was investigated on Friday, Sept. 22, at a coroner's inquest upon the body of Mr. Richard Bower, of Crockerton, Warminster, the master of the South and West Wilts Foxhounds. The inquiry was held by Mr. F. A. P. Sylvester, the coroner for the district, at Sutton Veny, near Warminster.

From the evidence of a relative it was clear that some months ago Mr. Bower was bitten on the hand through a thick woollen glove by a hunted fox at the end of a run at the close of last season. Mr. Bower dismounted from his horse to break up the fox, and as he drove back the hounds and held the fox he was bitten by the animal. A hunt servant who was present at the time stated at the inquest that Mr. Bower made no complaint then about the bite. Later, however, Mr. Bower mentioned the matter casually to friends.

Medical evidence was given by Dr. Robert Lewis Willcox, who attended during the last illness. Mr. Bower, he said, became ill on Monday and died on Thursday night 21st inst. Not until Wednesday evening at six o'clock—twenty-eight hours before death—were any signs of hydrophobia manifest. Then, however, the symptoms showed, and the patient suffered from fever and great weakness.

It was almost impossible for him to swallow, and he had great difficulty in breathing. Paralysis of the muscles of the jaw ensued, with paroxysms. The patient suffered terribly. In conjunction with three other medical practitioners Dr. Willcox was convinced, after his clinical examination, that the complaint was hydrophobia.

During the interval between the time he was bitten and his death Mr. Bower had been in excellent health. No signs of hydrophobia have been displayed among the hounds, none of which were bitten by the fox, nor is there as yet reason to believe that other foxes in the district have been infected.

Specimens of the patient's secretions have been sent for examination to two eminent pathologists in London. *Daily Mail.*

I hold every man a debtor to his profession; from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to be a help and ornament thereunto. (Bacon).

DISEASES OF ANIMALS ACTS 1894 to 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.	
	Outbreaks		Animals				(including Farcy)		Counties Affected			
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.*
Gr. BRITAIN.												
Week ended Sept. 23	16		16				3	9		1	48	456
Corresponding week in	1910	23	23				10	21	Essex 1	4	25	158
	1909	21	24				10	44		...	18	73
	1908	18	21				16	45		2	30	297
Total for 38 weeks, 1911	628		779		8	425	148	346	London 4	310	1888	21973
Corresponding period in	1910	1064	1272		2	15	280	839	Middlesex 4	348	1062	9630
	1909	961	1279				405	1464		474	1308	11786
	1908	803	1070		3	112	613	1885		643	1552	9140

Board of Agriculture and Fisheries, Sept. 26, 1911.

Parasitic Mange (outbreaks)

IRELAND. Week ended Sept. 23	...	...	...	...	...	...	...	1	3	5	91
Corresponding Week in	1910	...	...	...	...	...	...	2	3	...	...
	1909	...	1	1	...	...	...	...	...	1	66
	1908	...	1	1	...	...	...	1	...	1	163
Total for 38 weeks, 1911	...	7	14	...	...	2	3	54	261	102	1708
Corresponding period in	1910	...	5	8	...	1	2	58	358	73	1707
	1909	...	6	6	...	...	...	67	307	86	1513
	1908	...	7	10	...	...	...	32	277	141	3247

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 25, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Royal Agricultural Society of England.

The 73rd Annual Show of the Royal Agricultural Society of England will be held at Doncaster (on the Racecourse) from Tuesday, July 2nd, till Saturday, July 6th, 1912.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Sept. 22.

SPECIAL RESERVE OF OFFICERS.

ARMY VETERINARY CORPS.

P. B. Riley to be Lieut. (on probation). Dated Sept. 23.

CORRESPONDENCE.

AN UNUSUAL SKIN AFFECTION IN CATTLE.

Sir,
Reading in *The Veterinary Record* of last week, I see Mr. Wallis Hoare describes an outbreak of a skin affection which has certainly puzzled me as to its origin. I have had two herds affected. One which originated in a herd of 15 heifers, of from 2½ to 3 years of age, and they showed the symptoms described by him; but in most cases the disease was more severe. The point of inoculation seems to be the back of the knee. Extensive swelling from the knee upwards, and an abscess forms at the point of the shoulder in one out of three cases. The complaint spread to 40 beasts, varying from 18 months to 2 years, and

not only did they have the forelegs affected, but also broke out in the joint of the hock. All these cases showed loss of flesh, until the abscess broke and discharged.

The second outbreak occurred on a dairy farm, 15 miles apart from the first. In this case the means of inoculation were quite feasible. The owner having bought a heifer which had shown signs of an eruption at the back of the knee. In ten days four out of twenty milch cows had an eruption there, but in a much smaller degree to the others in the first case. After fourteen days the whole herd was infected. I treated them with antiseptic dressings and isolated them by not allowing any to be sold. It appeared to be a case of contagious malleanders and sallenders.

In conclusion, there is no doubt it is very contagious. No loss of life, but loss of value owing to the animals sinking in flesh. Perhaps some of our more fortunate confrères with bacteriological facilities can help us. Both these cases were reported as suspicious foot-and-mouth disease.

OSBORNE G. HILLS, M.R.C.V.S.

Royal Leamington Spa. Sept. 26.

DISEASE IN PIGS—AN ENQUIRY.

Sir,

I wonder if any of your readers could, by my simple description, tell me the malady from which quite a number of young pigs are suffering.

A litter of nine, a fortnight old, all died exhibiting extreme peeling of the skin. I have now under my observation another litter showing the same symptoms, and they look like dying.

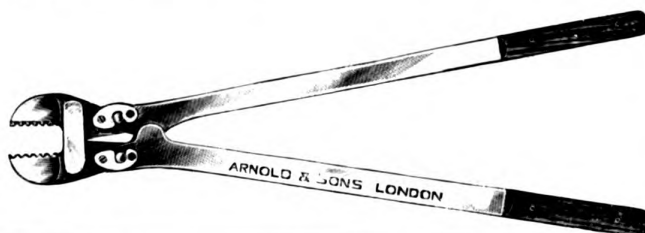
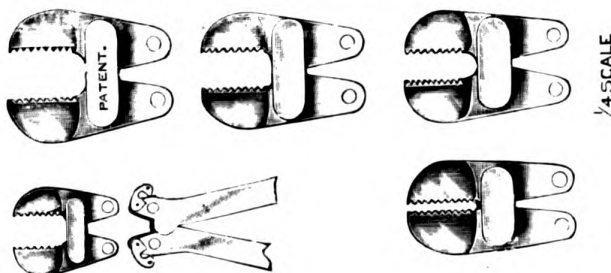
I should be grateful if anyone would give me the benefit of his experience.—Yours faithfully,
Sept. 28.

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GOOD-CLASS General Practice in first-class sporting district in the South Midlands, represented as returning between £450 and £500 p.a. is for disposal under satisfactory reasons. Further particulars in confidence will be given on application.

OLD established practice is for immediate sale, vendor having obtained an appointment. Situate in the Eastern Counties. Good agricultural district. Returns represented as being £450 p.a. C.C. inspectorship. Excellent house and stabling. Two acres of grass paddock. Price, in order to secure quick sale, £300, to include drugs, fittings, instruments, trap and cob.

AN exceptional investment for a smart man desirous of South African Practice. An opportunity of securing a partnership in an excellent equine and canine practice, established for 18 years. Represented as returning on average for last three years over £1000 p.a. Letter just to hand states: returns for first 6 months this year have been £607 10s., and that this is capable of great increase. Capital required (to include half-share of practice and valuation of surgery) under £600. References exchanged. Further information will be given to bona-fide applicants.

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PARTNERSHIP, with view to succession, in a good-class sporting practice, desired by an experienced M.R.C.V.S. with capital at command. Good horseman. Particulars will be received in strictest confidence.

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WEST OF ENGLAND. Practice in good breeding and hunting district, returning £600 per annum. In present hands 10 years. Convenient house with surgery, stabling etc., rent £55. Premium one years purchase.

SOUTH COAST. Country practice returning about £835 per annum, including appointments producing about £70. In present hands 24 years. The practice has been worked by an assistant who would remain if desired. Convenient house, rent £21, larger available if required. Premium £800.

IRELAND. Partner wanted to take charge of practice returning about £1200 per annum. Rent of premises £82 per annum inclusive. Contracts produce over £400 per annum. Practice has been in present hands 12 years. Premium required for half-share £500.

HEALTH RESORT. Practice returning £650 per annum, chiefly dog. Good house with large yard, stabling, kennels, etc., rent £85, or would sell freehold. Premium £750. Valuation optional.

LONDON, N. Very old-established practice returning about £1200 per annum. Good house and thoroughly convenient premises, rent £90. The practice is principally horse. Receipts are increasing. Premium one years purchase. This practice is well-known to us and can be recommended.

LONDON, S. Practice producing over £1000 per annum. In present hands nearly 40 years. Good house, with stables, kennels, etc. rent £70. The practice is principally dog with some horses and dairies. Vendor retiring. Premium one years purchase.

SURREY. Rapidly increasing, well-established practice returning about £1000 per annum. Small house with stabling, kennels, etc. Capital required, including valuation, will be about £1300. The practice is well-known to us and can be thoroughly recommended to a suitable man.

HIGH-CLASS mixed practice returning about £650 per annum. Good premises would be let on lease or sold if preferred. Premium £600.

SEASIDE. SOUTH COAST. Partner wanted in practice returning nearly £700 per annum, and capable of great increase. Incoming partner must be good allround man. Premium for half share £300.

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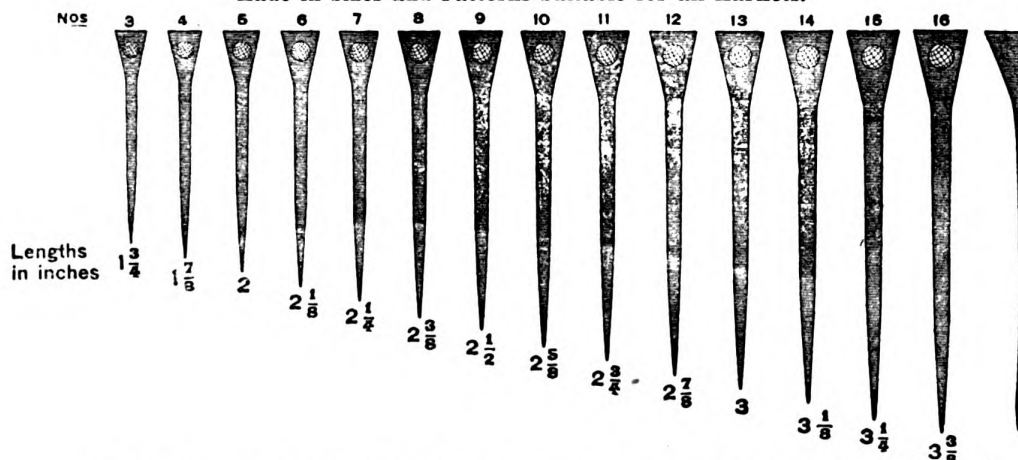


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Registered for transmission as a Newspaper.

No. 1213.

OCTOBER 7, 1911.

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Victoria University of Manchester Diploma in Veterinary State Medicine

THE classes for the above will begin on Friday, Oct., 6th, at 3 p.m., at the Public Health Laboratory, York Place. Entries for the course should be made at the Laboratory not later than Oct. 6th. Further particulars may be obtained from the Director of the Laboratory.

Association of Veterinary Officers of Health

THE Annual Meeting of the above Association will be held in the Caledonian Station Hotel, Princes Street Edinburgh, on 13th October, 1911, at 10 a.m. The following papers will be read: "Tuberculosis and the Milk Supply," by Prof. Delépine, Victoria University, Manchester. "Existing and Prospective Legislation re Milk Supply," by John Lindsay, Esq. Solicitor and Town Clerk Depute, Glasgow. The discussion will be opened by J. S. Lloyd, Esq., F.R.C.V.S., D.V.S.M., Veterinary Officer of Health, Sheffield.

Members of the profession holding public health appointments are invited to communicate with the Sec.

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Wanted.

ASSISTANT, to live out, wanted for town practice (horse and dog). State age, experience and salary required per annum. Address, 1103 V.R., 20 Fulham Road, London, S.W.

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Canvassing of Members of the Council will be regarded as a disqualification.

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Town Clerk's Offices, Liverpool, Town Clerk,
27th September, 1911.

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RESPECTABLE young man with experience of dispensing, veterinary work and book-keeping, requires position. Terms moderate, total abstainer. Address, 5095 V.R., 20 Fulham Road, London, S.W.

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INDUSTRIOUS, reliable young man to assist in branch practice, Sussex. Able to cycle. References required. Address, 1309 V.R., 20 Fulham Road, S.W.

See also page VII.

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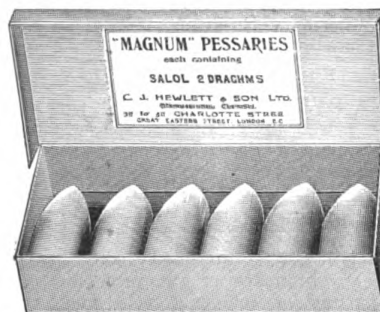
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A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1213.

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THE INAUGURAL ADDRESS AT CAMDEN TOWN.

The Camden Town School opened its doors on Monday last, when those who attended—including a larger number of visitors than usual—heard a very interesting address. As might have been expected, Mr. Stockman made many references to his own branch of veterinary work—preventive medicine, but he also devoted much attention to veterinary education, and in this respect the paper departs a little from the beaten track. Usually such addresses, so far as they relate to instruction at all, are largely concerned with that of the still unqualified student. This one is mainly taken up with the wider question of post-graduate study. More methods than one of pursuing this, as Mr. Stockman pointed out, are open to the veterinarian. One or two are only recent acquisitions; others are of older standing; but scarcely one is yet fully appreciated by the profession.

A set post-graduate course, such as the now famous one at Camden Town, is the method that will probably always attract most qualified students. So far these courses have been confined to veterinary pathology and sanitary science, but there is no reason why similar courses, including medicine and surgery, should not be instituted for the benefit of practising clinicians. Mr. Stockman, however, dwelt at some length upon an older method of post-graduate study which has much to commend it—an independent and largely self-directed course at any large veterinary college. We could name well-known veterinarians who have done this with the best results, long before post-graduate classes were instituted; and one of its great advantages is that the periods and subjects of study alike can be modelled to meet the individual case. This feature will always commend it to the serious student, who will probably find this method the best of all.

Mr. Stockman mentioned one other post-graduate facility which is only just opening to our profession—research scholarships to enable men to train as investigators. Thanks to the Board of Agriculture, a good number of such scholarships are now to be open to veterinary graduates; and some of our younger men may be trusted to obtain distinction in them.

Mr. Stockman takes a roseate view of veterinary work as a whole: but there is no doubt that he is right in saying that the prospects it offers to those who choose its preventive and research side were never so bright as at present. Some of our old functions are undoubtedly declining. This new one, although it is already absorbing many of best graduates, is only beginning to open to us.

VETERINARY WORK IN THE PUNJAB.

The Annual Report of the Punjab Veterinary College and the Civil Veterinary Department, Punjab, for the year 1910-11, is, unfortunately, shorter than usual. For some reason it has been ordered that its text should be reduced from that of former years; although the work it concerns is expanding, and the publication really comprises two separate reports of different institutions. That of the Punjab Veterinary College, of which Major Smith is Principal, has been written by Mr. S. H. Gaiger, I.C.V.D., the Officiating Principal; that of the Civil Veterinary Department is by Mr. V. de V. H. Woodley, its Chief Superintendent; while a note upon both by the Director of Agriculture precedes them.

The Punjab College is on the eve of a great change. Government has decided that it shall be enlarged so as to serve as the sole veterinary college for all Northern India; but nothing has yet been settled regarding the details of the change. Plans of requirements are being prepared; and it may be hoped that a definite scheme may be adopted and set on foot during the present year. It seems most likely that this will take the form of building an entirely new and larger college upon a fresh site not far away from the present one.

In the meantime the work of the existing college is inevitably more or less unsatisfactory. The examiners' report lays stress upon the grievous overcrowding of students, instancing the fact that the anatomy class contained 77 men, while the dissecting room appears suitable for no more than 16 or 20. In fact, the College is reducing the numbers of its students in order to gain in teaching efficiency; and of course this will mean shortening the supply of native graduates, which already does not cope with the demand for them. There could be no clearer proof of the need for a larger college and staff.

Despite these disadvantages, the year's work seems to have been very good. All things considered, the examination results certainly are so; while some important research work, which will be reported upon separately, has been done during the period. This includes the discovery of a new form of Indian bovine trypanosomiasis, which is only demonstrable by cultural methods; and of a form of canine piroplasmosis which is unaccompanied by jaundice, is unaffected by the trypanblau treatment, and is therefore possibly due to a new species of piroplasm.

Mr. Woodley's report of the Civil Veterinary Department is also very satisfactory in many respects, perhaps most of all in its evidence of the success of

the local veterinary hospitals. During the year under report there were 102 of these in the province, as against 94 in the previous year, and their attendances show marked increase. "The average daily attendance at each hospital works out at 16, and the average daily admission of fresh cases 7.5; the figures for last year being 12.95 and 5.8 respectively." These figures speak for themselves.

Breeding operations continue to make headway, if somewhat slowly; while there is a great reduction in most of the animal epidemics. Altogether, during the year, only 217,823 cases of epidemic disease were reported, against 337,146 the year before. Foot-and-mouth disease in particular has decreased enormously, only 83,960 cases being reported against 247,423 for the previous year.

Most of the other epidemics also show more or less reduction, with the very important exception of rinderpest, which has risen greatly. During the year 99,126 cases of rinderpest were reported, against 48,226 for the year before. Fortunately it has been possible to greatly increase the number of preventive inoculations upon in-contact animals; 102,603 have been inoculated, against 43,250 last year, and only 300 deaths occurred after inoculation. Native opposition to inoculation, though still marked in some districts, is evidently subsiding; and the results of this year's inoculations will certainly weaken it still more.

The result of the whole year's work goes to show that the Veterinary College and Civil Veterinary Department of the Punjab, both alike, undermanned, and handicapped in many other directions, are both rendering invaluable service to the agriculture of the province. The work of both is expanding rapidly; and we are glad that facilities for expansion are at last to be given to the College. Such facilities are also being given to the Veterinary Department, but these seem insufficient for its growth. Eight veterinary assistants were added to its staff during the year under report; but during that period the work evidently increased so much that more must now be necessary.

TETANUS SUCCESSFULLY TREATED WITH MAGNESIUM SULPHATE.

By W. A. DYKINS, M.R.C.V.S.,
Government Veterinary Surgeon, Umtata, S.A.

Having recently read in *The Journal of Comparative Pathology and Therapeutics* an article by Capt. W. O. Dawson, A.V.C., on results obtained from the above treatment, I was fortunate in meeting a case of tetanus shortly afterwards, and applied the same treatment with good results.

During a visit to Port St. John's, which is one of our sub-districts, the Government Stock Inspector informed me of a beast sick at a trading station twelve miles from the village, the malady he diagnosed as lockjaw. I immediately instructed him to proceed there and apply the treatment.

I arrived at the station two days later and confirmed his diagnosis.

History.—The heifer calved on the 14th of August normally, but retained the cleansing for a few days, which was afterwards removed by the natives, who had some difficulty, and ignored anti-septic precautions. She had been noticed sick about seven days before my arrival, and had had two injections of Mag. sulph.

Symptoms.—The beast was standing in a kraal, exhibiting great distress and assuming a rigid posture, its head extended, and its tail straightened and slightly elevated. Great weakness was noticed; animal would lie down and unable to rise without assistance. Trismus had been severe, but showed improvement, muscles of neck, chest, loins, and limbs showed tonic spasms, and were very tense. The nostrils dilated, and the protrusion of the membrana nictitans over the eyeball was exceptionally well marked. Animal showed accentuated reflexes. Breathing and pulse accelerated, temperature normal, obstinate constipation was observed.

Treatment.—The beast was allowed to remain in kraal, as there was no building or shed available. Up to the present she had received 2lb. of salts from the owner, and two subcutaneous injections of a saturated solution of Mag. sulph. 40 c.c. daily (20 c.c. on each side of neck). These injections were continued for a few days later. I had a letter from the Stock Inspector on September 5th informing me that the beast was making an excellent recovery, feeding well and able to walk about.

As tetanus is somewhat prevalent in this district, and the mortality high, I hope to be able to put this treatment to a more thorough test in the future.

DIGESTIVE DISEASES OF RUMINANTS.

It is not because I have any desire to pose as an authority on the diseases of the stomachs of ruminants that I venture to put on paper a few thoughts in reply to Mr. Hoare's questions contained in your issue of the 26th August last, but that the subject is very interesting, and cases are often very puzzling, if one endeavours to arrive at anything like an accurate diagnosis.

Does impaction of the omasum occur as a disease *per se*? I do not think that impaction of this stomach does take place as a distinct disease—if by impaction is meant the over distension of the stomach with food, whether in a moist or dry state; but I do not accept the idea that this stomach is never affected with disease except as the result of disease affecting the other stomachs. I believe it is subject to primary disease and nearly as frequently as the others, only to describe the commonest disease of this stomach accurately it should be named desiccation of the contents of the omasum.

The situation of this stomach in the ox renders it peculiarly liable to such a condition; the greater, if not the whole bulk of this stomach is situated above its entrance and exit, so that to keep its contents moist liquid must travel, or be forced, more or less uphill. When this stops from any cause, or the supply of liquid is cut off, the tendency will be

for the liquid that is present between the leaves to drain away, and unless the walls of the stomach happen to be paralysed, this will be materially assisted by the normal contractions of the organ.

Is not this stomach's separate nerve supply an endeavour to throw it out of gear as much as possible with the other stomachs, and so render it less liable to be influenced by their diseases, since its own structure and situation render it so liable to disease itself?

Impaction of the omasum is not always associated with brain symptoms, and should not be called stomach staggers. Stomach staggers is a symptom of the absorption of some poison produced in the stomachs during the process of digestion, or decomposition, of certain foods, and may be associated with desiccation of the omasal contents, or with gastritis.

Causes.—Sudden change on to very succulent food produces it by stimulating the walls of the stomachs to increased movements, which in the case of the third stomach tends to force the liquid contents of that stomach out, and also tends to draw more liquid from the third into the fourth stomach.

Seeds of over-ripe grasses cause it by being taken out of the rumen with the liquid overflowing from it, but as they carry little water in their structure, and, being hard allow the water surrounding them to percolate freely, they act as desiccants; some of them also produce poisons which have a paralysing effect on the stomach either through the local or central nerve supply.

Allowing cattle to lick dry meal without providing a sufficient supply of water causes it, because of the amount of fluid the meal absorbs. In a case of this kind the omasum may give one the impression that it is larger than normal from being impacted.

Systematic under watering will act as a cause.

Simple inertia of the stomach from the prolonged action of cold or any other disturbing factor might also produce it. It is occasionally produced by prolonged parturition; in this case it is due, I think, to the pressure exerted during the throes of labour pressing out the liquid contents of the stomach.

I would suggest that a slaughterhouse is not the best place to examine the stomachs of ruminants for normal conditions, as the animals there may have travelled long distances, and been deprived of both food and water for considerable lengths of time.

Symptoms.—If it arises as the result of sudden changes on to succulent food there is generally some diarrhoea to begin with, which is not very severe, and soon gives place to very obstinate constipation, unless attended to early. When it arises from dry feeding the animal is usually noticed by the attendant not to be quite so ready for its food as ordinarily for a day or two, and this ends with the animal by and by refusing all food, although the bowels appear to be acting normally. The illness about this time is generally attributed to the effects of a chill, since the animal is dull, the coat more or less staring, possibly an occasional slight quiver

about the flank, and a slight quickening of the respiration may be seen. There is no grunt. A careful examination reveals that the first stomach is a little more sluggish in its movements than normal, and that there are no sounds, or only very faint ones, over the seat of the third and fourth stomachs. If a dose of medicine be given at this stage, it will be found that before it has time to act all motion from the bowels will have ceased for a matter of twelve hours or so. If no medicine be given about the time indicated, but its administration is delayed, as it very often is, for another twelve hours, there is then no motion from the bowels, no movement at all in the third and fourth stomachs, although the rumen is still acting; there is a grunt, more or less frequent and more or less painful according to the condition of the patient, and some restlessness due to abdominal pain. The grunt is always most evident when the animal is lying, and it may be so slight, when the animal is standing, as to be audible only when the ear is applied to the side.

There are also the usual signs of ill-health; uneven surface temperature, eye dull, conjunctival vessels a little injected, muzzle dry: the pulse is not much disturbed at first, unless in cases beginning with diarrhoea, but afterwards becomes frequent and faster than normal, but remains soft until the onset of inflammation; the temperature at first is normal, and remains so, or rises very little until inflammation sets in. When brain symptoms become manifest, you may get almost any nervous symptom shown, or the whole list of them may be gone through, to terminate in death either in coma or delirium. Once the contents of the omasum have become thoroughly desiccated, I do not think any medicine will soften them, or only in very exceptional cases, and should purgatives simply cause watery evacuations the case is generally hopeless, and the administration of large doses of purgatives worse than useless.

Gastritis. Gastritis is often the result of unrelieved desiccation of the omasum, and of overdosing with purgatives to overcome that condition, but it also arises as an independent affection, from causes which, in other subjects, would produce the previous disease, such as any sudden change of food, and the greater the change in the food the more liable is this disease to result; all irritants produce it, if taken in sufficient doses.

Symptoms. These are always severe, but unless there is desiccation of the contents of the omasum, or some other obstruction to the passage of the contents of the anterior stomachs, gastritis or gastro-enteritis is, I think, always associated with diarrhoea, and the more severe the inflammation the worse is the diarrhoea, until it becomes dysenteric, and towards the end nothing may be passed but mucus and blood.

The advent of gastritis, while attending a case of desiccation of the omasum, is heralded by a sudden change for the worse in all the symptoms shown by the animal, and even here diarrhoea may arise.

There is evidence of great abdominal pain, from the restlessness of the animal, almost up to the

time that the recumbent position is assumed from exhaustion, there is constant moaning—more than grunting; the eyes are sunk in the orbits, dull and listless, the belly becomes tucked up, and there is pain on pressure over the right hypochondrium—pressure here causes a painful grunt. There is grinding of the teeth. Fever is always present until near the end, and the pulse is frequent, small, and hard (wiry), the breathing is accelerated, and latterly the breathing becomes oral, more especially during expiration.

Impaction of the rumen. Cases of this disorder which recover do so, not so much from the direct action of the purgatives on the contents of the rumen as from their action on the other stomachs and bowels, keeping them in working order. The stimulants, which are also given in this disease, materially assist by acting on the rumen through the nerve supply. However, recovery is mainly due to the food in the rumen undergoing some form or other of digestion or fermentation, which reduces its bulk, by rendering some of it soluble, and enabling it to be removed in the liquid that is always passing from the rumen into the other compartments. The most reduced particles of the coarser food also get conveyed onwards with the liquid, and in some cases it is really wonderful what coarse material passes through the digestive canal before rumination is satisfactorily re-established. I do not think that the whole of the food partaken of by a cow at any time is put through the process of rumination, but only the coarsest particles of it; the larger part is sifted out between the rumen and reticulum, and passed on to the omasum without being ruminated at all.

Constipation of the bowels. From what is published in veterinary literature, one is almost led to believe that the only form of constipation which affects ruminants is that which is connected with their stomachs, and that there is no constipation connected with their bowels. Milch cows, at any rate, are subject to constipation of the bowels, which is associated with some functional derangement of the liver, during the latter part of writer and the early spring.

It appears to be due to changes in the food which occur about this time. The supply of roots fails or the roots become deprived of a part of their natural moisture and get very indigestible, and various additions are made to the food to compensate for these things, in an endeavour to keep up the supply of milk.

The animal is noticed to become gradually constipated in the bowels, the fæces become drier and drier, and more coated with mucus until the animal shows diminished appetite and reduced yield of milk; then the fæces are noticed to be scanty, and the urine high coloured; the extremities colder than normal, and rumination more or less suspended.

If the animal is not attended to now, the appetite fails entirely, defæcation and rumination cease altogether, and the milk yield stops; colicky pains put in an appearance—if they have not been manifest before—the animal lying down and rising fre-

quently, and kicking at its belly with the hind feet; lumps of yellowish-white mucus pass from the bowels, but movement in the stomachs never entirely stops.

The pulse is not altered at the beginning but when the disease has advanced to the point of diminishing the milk yield, it is often less frequent than normal, and slow, but quite full; the temperature is not altered any as a rule, but may be slightly below the average, while the mucous membranes and skin are tinged more or less yellow. Except colic be present, the respirations are not interfered with.

In this disease it is not difficult to get a reaction to purgatives, and once the bowels are opened the appetite improves immediately; but the constipation is very apt to return in a day or two, when the same set of symptoms become manifest. To prevent this a course of laxatives, with liver stimulants and tonics is necessary, together with an entire change of diet, if this can be attained at the season of the year when the disease appears. These cases sometimes take quite a long time before the natural functions are thoroughly restored.

PETER WILSON.

Lanark. Sept. 27.

ABDOMINAL COMPLAINTS.

By W. TART, M.R.C.V.S., Stoke-on-Trent.

I have been much interested in reading the various articles and letters on abdominal complaints of cattle, which have appeared lately in *The Record*. The article by Mr. Hugh Begg has been especially interesting to me. I am tempted, with much diffidence, to describe my own experiences with somewhat similar cases.

During the last ten years, as I usually pass a country knacker's yard on my daily round, I have made a rule of examining post-mortem the majority of cattle (chiefly milch cows) which have died under my treatment.

My clients, too, are very apt to regard the cases exhibiting such a train of symptoms as described by Mr. Begg, as occasioned by impaction of the omasum, and to treat them with a strong purgative, usually salts and treacle.

I must say that, although I have examined scores of cases I have never yet met a case in which I could definitely say death was due to impaction of the omasum. Further, I do not think that in any one of the cases did the trouble arise primarily in the omasum.

Putting aside those cases due to penetration of the stomach wall by a foreign body (which are fairly common in this district) I have found the most general causes to be

(a) Inflammation of the abomasum, sometimes affecting to some slight extent the other stomachs, and often extending to the bowels.

(b) Peritonitis, general or localised.

Those cases due to (a) I have found most common (although by no means confined to them) on a number of farms which border closely on collieries

and furnaces. On these farms the cattle generally do very badly, seldom lasting more than four or five years after the first calving. They are very liable to digestive troubles, arising, in my opinion, from the ingestion of mineral matter deposited on the grass from the smoke. I find that they almost invariably die if treated with drastic purgatives. They do much better after a mild aperient, followed by internal antiseptics, carminatives, etc. The post-mortem symptoms are those of gastro-enteritis.

I have been very sceptical as to peritonitis arising from chills to the abdomen. But I am inclined to change my opinion, as during the last few weeks, since the breaking up of the fine weather, I have had a number of cases which I have regarded as due to peritonitis, to which I am unable to assign any other cause. In some of these cases, in addition to the symptoms described by Mr. Begg, there was flatulence not of the rumen but of the abdominal cavity. The gas being in the abdomen itself, and the mass of the rumen easily felt a distance from the wall of the abdomen.

I will eliminate the cases which recovered, as the diagnosis may be open to doubt, and describe two typical cases which are fresh in my memory.

1. *Subject*.—Blue cow, had first calf a couple of months ago, was in moderate condition. She was noticed to be ill and shivery. The owner administered a purgative and sent for me the following day. I found her to be very depressed, eyes sunken, temperature 104, pulse frequent and thready, faces scanty but sloppy, abdomen tense, appetite entirely absent, not very thirsty, milk gone, grunting with every breath.

Diagnosis.—Peritonitis, with a saving clause that it might be "wire."

Treatment.—Quinine, digitalis, opium, calomel in hot beer three times a day. Gruel at frequent intervals. Had her well rugged up and kept warm. She died in a few days.

Examination post-mortem showed peritonitis (apparently not septic) more marked in the region of the diaphragm. Pleura and thoracic organs normal except the one lung congested on the side she had lain before death. A careful search for a foreign body was useless.

2. *Subject*.—Shorthorn cow, rather poor, had calved four months.

Symptoms.—As in former case, but grunting very heavily, abdomen very flatulent, temperature 105.

Treatment similar to first case. She too had had a purgative. Applied hot cloths to abdomen. On second visit she was clearly moribund, to satisfy owner I inserted a short trocar and canula and a quantity of gas escaped, but not so much as is usual in tympanitis of the rumen. I could feel that the instrument was not in the rumen. She died on the 3rd day.

Post-mortem showed severe septic peritonitis, both parietal and visceral, with a very considerable amount of fluid in the abdomen. The pleura was slightly reddened, lungs congested, no fluid in chest. After a most careful search (the owner was present) I failed to find any trace of a foreign body.

These cases arose suddenly, and if not due to chills I do not know to what cause to ascribe them. It may be, as Captain Rainey suggests, in his letter published in the issue of the 16th inst., they are caused by infection from the intestinal tract without a puncture. But they arose very suddenly and were ushered in by shivering and symptoms of a chill.

The most interesting symptom to me is the flatulence of the abdomen, usually regarded as an almost certain symptom of "wire."

A VICTIM OF QUACKERY.

A well-grown male cat, about six months old, was brought to our infirmary by its owner, who stated that four days previously it had been castrated, but he was afraid it had not been properly done. Examination of the patient showed his fears to have been well founded.

The method of castration adopted was simply to cut off the lower portion of the scrotal sac: with what object it is difficult to imagine, unless it was surmised that the testicles would fall out. On examination it was found that both testicles had descended, one to about half an inch and the other about three-quarters of an inch below the scrotal incision. They were considerably swollen and suppurating freely. Both cords were thickened and united together, and to the edges of the wound by numerous adhesions. The cat was very "mopey," and was stated to have partaken of no food since the "operation."

The adhesions were dissected away and the cords separated, but owing to their inflamed and thickened condition it was considered inadvisable to remove the testicles by the usual method of drawing. A ligature of soluble gut was placed round each cord, the testicles snipped off, and the wound thoroughly cleansed.

Next day the cat fed greedily, the wound healed without any further attention, and he was sent home in four days time.

"ERIN."

PROLONGED RETENTION OF FŒTUS.

During April of last year I was asked to attend at the parturition of a rather valuable Jersey cow, which had the previous year given birth to her first calf in an uneventful manner.

At the first visit there was no signs of immediate calving, but when attending about ten days later the usual symptoms were evident—enlarged udder, altered pelvis, etc.

The attendants and myself could feel the calf (or thought we could) on pressure of the right side, but after paying several visits to the cow it was a surprise to find parturition no nearer, and the signs of its approach were now less marked than before. There was no discharge from the womb, and the cow's general health was normal.

A week ago, eighteen months after the date due for calving, I was called again to see this cow. She

appeared in some pain and not in good health—a discharge like dirty mustard was coming from the vagina, and the attendant informed me that about a gallon of this material had been passed. Next day a foetus was expelled having the appearance of one carried about five months *in utero*.

It is, I know, not uncommon on post-mortem examination to find a mummified foetus in the womb of supposed "empty" cows, but the above phenomena are surely unusual.

It is certain that the last date of service was July 6th, 1909.

J. H. RIPLEY.

Hurst Green, Sussex.

ABSTRACTS FROM FOREIGN JOURNALS.

THE TEMPERATURE IN QUARTER-ILL.

It will be remembered that, some time ago, several European veterinarians published clinical observations which certainly seemed to throw doubt upon the classic view that a high temperature is associated with quarter-ill. Major F. S. H. Baldrey, F.R.C.V.S., D.V.H., I.C.V.D., has gone into this question at Muktesar, and has published his results in *The Indian Veterinary Journal*.

Maj. Baldrey's observations were made under peculiarly advantageous conditions. At Muktesar, a considerable number of animals suffering from quarter-ill are carefully observed; and the course of the temperature can therefore be followed with far greater accuracy than is usually possible in ordinary practice, where the temperature takings are necessarily few and irregular. Major Baldrey observed 21 animals in all; and in 3 of these the temperature was taken every two hours, while in the others it was taken morning and evening. The conclusion he draws is "that in black-quarter there is usually at some place in the course of the disease a high temperature, but to the ordinary clinician the absence of this would not be remarkable." If the temperature were taken every hour, he thinks it very possible that every case would show a high temperature at some period in its course. The temperature, however, varies from hour to hour, as three cases in which it was taken every two hours show. It commences to fall very rapidly immediately after reaching its highest point, and becomes very low just before death—sometimes descending to even 94° F.

Major Baldrey's 21 charts also show that the most acute cases are the least likely to show very high temperatures. In the more chronic cases which extend over a time of from two to three days, there is always a highly febrile period; while in very acute cases collapse seems to supervene almost at once, and the temperature quickly runs down until death.

These observations are so much more complete than the majority of those which are found possible in practice that they deserve to be widely known. Probably they represent the truth of the matter,

especially as they amplify and corroborate, rather than clash with, the results reported by others. They explain how it is that some practitioners have found normal or sub-normal temperatures so often as to conclude that quarter-ill is not a febrile disease. The truth appears to be that the disease is a febrile one, but the fever may be of such short duration that its absence is of no great diagnostic importance.

PRIMARY GIANT-CELLED SARCOMA OF THE HORSE'S SPLEEN AND ITS CONSTITUTIONAL RESULTS.

Edward Nyiri, of Budapest, records (*Allatorvosi Lapok*) the following pathological observation. A horse's spleen, measuring 52 centimetres (20 4-5th inches) long by 28 centimetres (11 1-5th inches) thick, and weighing 7,260 grammes (roughly about 16 pounds) was sent to the Budapest Veterinary School for examination. The horse from which the spleen had been taken had been extremely emaciated, but no pathological lesions had been demonstrable except in this single organ.

The surface of the spleen showed numerous roundish protuberances, ranging from the size of a bean to that of a child's head. When incised, the cut surfaces of these swellings showed grey-red spots, while the cut surface of the spleen appeared brown-red.

Microscopic sections cut from these swellings stained unequally, and some portions remained quite uncoloured. The capillaries were greatly dilated. The cellular substances of the swellings showed two kinds of cells. Cells of the one kind were larger than ordinary lymphocytes, and possessed a nucleus which was poor in chromatin and was surrounded by a broad zone of protoplasm. Cells of the second variety showed only a very thin streak of protoplasm, and their nuclei were rich in chromatin and showed different forms of division. In much smaller number and only at isolated places larger cells were noticed, the protoplasm of which stained dark red with hæmatoxylin-eosin and showed smaller roundish unstained portions (vacuoles). The nuclei in these large cells were rich in chromatin, and two or several nuclei of round, oval, or elongated shape, could be counted in one cell. Lastly, in isolated groups, eosinophilous cells were noticed, the nuclei of these being poor in chromatin and small. The ground substances of the tumours consisted of connective tissue, which was rich in blood.

The microscopic findings, therefore, indicated that the tumour was a lympho-sarcoma or lymphocytoma containing giant cells. The neoplasm arose from the malpighian follicles, and the author ascribes a two-fold action in causing the emaciation of the horse to its agency. In the first place, its growth had caused a permanent pressure upon the neighbouring structures. In the second place, the toxic materials which arise in such cases had also played a part in causing marasmus.—*Berliner Tier. Woch.*

W. R. C.

BOARD OF AGRICULTURE AND FISHERIES,
4 WHITEHALL PLACE, LONDON, S.W.

October 3rd.

The Board of Agriculture and Fisheries desire to draw attention to the fact that in times of great prevalence of foot-and-mouth disease on the Continent there is a grave risk that the virus of the disease may be imported indirectly into Great Britain. During the nine months of the present year the infection of foot-and-mouth disease appears thus to have been imported on no less than five occasions, and inasmuch as the disease is still very prevalent on the Continent of Europe, it seems probable that the risk of its re-appearance in Great Britain will continue to exist for some time. The Board are gratefully cognizant of the valuable assistance they have received from the veterinary profession in the past, and they recognise the difficulty in which practitioners and inspectors are sometimes placed when suddenly called upon to decide promptly whether or not the disease is present, since, in spite of its exceedingly contagious character, it has recently appeared under circumstances in which no connection with a previous outbreak can be traced. Bearing in mind the great lapse of time since foot-and-mouth disease was generally prevalent in Great Britain, it must be the case that a considerable number of veterinary practitioners can have had little or no opportunity to become familiar with the disease in the course of their ordinary practice.

Having regard to the above circumstances, and to the fact that a delay of even a few hours in arriving at a diagnosis may be attended by the most unfortunate results, the Board venture to ask veterinary practitioners who may meet with symptoms in cattle, sheep, or pigs, which in the least suggest the existence of foot-and-mouth disease, to communicate their suspicions not only to the local authority, but also by telegram to the Board direct without avoidable delay, in the meantime taking all possible precautions against the spread of the disease by mediate contagion.

Where this is done the Board will at once instruct one of their Veterinary Officers to confer on the spot with the veterinary practitioner concerned.

ROYAL VETERINARY COLLEGE.

The Session was opened on Monday, October 2nd, at the College, Great College Street, Camden Town, N.W., Mr. W. Hunting occupying the chair. Amongst those present were Col. Duck, Profs. Wooldridge, Woodruff, Shave, and Almound, and Messrs. Banham, Carter, McCormack, Rutherford, and Thatcher.

ADDRESS.

By STEWART STOCKMAN, F.R.C.V.S.

A customary remark from benevolent old gentlemen to small boys is, or at least used to be, "What are you going to be when you are a man?" As I do not wish you to look upon me as a benevolent old gentleman, but rather as one who has gone a certain way along the professional road you are about to traverse, I promise not to treat you as children. Still, gentlemen, if you have not already done so, you must sooner or later ask yourselves what you are going to do when you are qualified, and this brings me to one part of the subject upon which I propose to address you, namely, post-graduate teaching, and post-graduate study. It may seem somewhat curious to address advice to men on post-graduate study before they have finished, and before some of them have even begun,

their under-graduate course. The direction of the latter, however, is provided for by the system of professional education obtaining in this country, which requires students to attend a course of theoretical and practical instruction under teachers at recognised teaching institutions, and afterwards to pass through the ordeal of examination as a test of efficiency, thus compelling them to acquire a certain amount of knowledge before they can pass from one stage to another, and finally qualify. The course of study prescribed for intending graduates in veterinary medicine and surgery is, having regard to its purpose, as wide as that of other professions, but it must be remembered that the amount of knowledge which seems fair to insist upon the average student acquiring in a specified time is necessarily limited: therefore, a syllabus of examination is introduced. A teacher may or may not teach within the limits of this syllabus. He may even think it his duty to do so, but most students are likely to confine their more strenuous efforts within its boundaries, and they can hardly be blamed for this, since it increases their prospects of passing the examinations at the earliest date possible. The restricting influence of this system may be counteracted by prescribing a wider syllabus. That, however, means a longer period of undergraduate study, and as the majority of students, even the most enthusiastic, take up a profession with the object of making a livelihood by supplying a public want, it does not seem advisable that they should be too long debarred from practising their profession, should they desire to do so, nor that the expenses connected with their tuition should be disproportionate to the average income available from it.

Further, although it must be freely admitted that study and teaching up to a certain point expedite the acquisition of skill, which is an indispensable factor in the successful practice of the medical art in all its branches, and that they open up wider fields for its application after it has been acquired, no amount of learning and tuition without practice will make a man skilful in any branch of the medical profession. The minimum time a student should be asked to devote to the study of the multiple rudiments of a profession like medicine has given rise to frequent controversy, which for the present has resulted in the presiding bodies imposing a general curriculum of a comprehensive character, leaving the further pursuit of subjects now universally admitted to require special teaching to those who are able and disposed, to follow them. The universities and colleges have organised post-graduate teaching in connection with some of the subjects, and several medical colleges, exclusively devoted to post-graduate teaching, have recently come into existence.

Certain veterinary colleges in this country have made more or less provision for post-graduate teaching, and it is gratifying to know that the post-graduate course of the Royal Veterinary College, London, has acquired a unique reputation throughout the British Empire. Special degrees and diplomas are granted by the universities and colleges to those who have attended a course of post-graduate teaching, and passed further examinations. The Body presiding over veterinary education in this country, the Royal College of Veterinary Surgeons, has not yet seen its way to grant a post-graduate diploma, conditional to candidates following a special curriculum, and passing further examinations, but it has approved the principle, and has signified willingness to put the latter into practice, when its funds enable it to do so in a manner befitting its public responsibilities. It is to be observed, however, that the scope of these courses of study for post-graduate degrees and diplomas is necessarily limited, that a syllabus of examination is introduced, and that a pass standard is fixed: the students are still in the position of being taught, in *statu pupillari*. Yet, with all its defects the system has much

to recommend it, and it supplies organised teaching of a more advanced kind to formed classes of men who desire to become more proficient in certain subjects. Supplementary diplomas afford evidence of a desire on the part of the holders to obtain more than a bare qualification, the additional learning forms a broader basis for a future superstructure, and they have also a commercial value, something the possession of which professional etiquette allows you to advertise by placing letters after your name, something which at least receives consideration should you apply for a public appointment. I would advise you badly were I to dissuade you from post-graduate degrees and diplomas, but I would like to qualify this advice with a warning not to submit yourselves for too long a period of your lives, or at too mature an age, to those forms of instruction, which bear a resemblance to spoon-feeding. The most desirable kind of post-graduate degree would seem to be one which might be granted to aspirants after a suitable examination, or for original work submitted, in recognition of extensive knowledge and skill in specified subjects, which their powers of self-education have enabled them to acquire by practice and study several years after their days of tuition. But, gentlemen, a man may take many degrees or diplomas by tuition and examination, he may even become very learned, and yet be a comparatively useless person in a profession which is an art founded upon science, and it was not so much to post-graduate study by following a conventional curriculum and taking a diploma that I intended to draw your attention, as to that kind of education a man seek out for himself, and to a certain extent direct.

The position of the veterinary practitioner is the most difficult in this respect. Veterinary clinics and hospitals, where a large and varied number of medical and surgical cases can be seen daily, are only to be found at veterinary schools in very populous cities like London, Paris, Berlin, and Vienna—schools, moreover, which lay themselves out for clinical teaching. Further, the possession of a practice from which he dare not be long absent is an obstacle the practitioner cannot afford to disregard. Still, few men start general practice on their own account for some years after they have received the qualifying diploma, and those who are able to continue their studies will gain more knowledge of clinical medicine and surgery in six months by a well designed course of post-graduate study at one or more of the large veterinary schools, than they will acquire by years spent in general practice. The fees involved are almost negligible, the cost of living as a student in a foreign city is not great, and the expenses of travelling need not be prohibitive. A graduate might attend the clinic and post-mortem room, he might arrange to have the *entrée* to the chemical, physiological, and pathological laboratories, where he can receive direction in relation to the carrying out of chemical and physiological tests applicable to the body fluids and excretions, and be in a position to practise with material from the clinic, the bacteriological and other methods which can be made use of in practice, principally in connection with diagnosis and treatment. He will probably have to make the selection of his own cases, and collect his material, but that is more an advantage than a drawback.

Those who desire to become more proficient in matters relating to State veterinary medicine would be well advised to take out a course of instruction in the ordinary technique practised in pathological and bacteriological laboratories, and to follow this up by spending several months in one or more of these laboratories, assisting the staff, and learning from them by conversation and observation.

In dealing with the suppression of epizootics, prompt and accurate diagnosis is the starting point of every-

thing which leads to success, and an error may lead to the most disastrous results, in some cases even to a national calamity. Further, a veterinary inspector, whether he serves under the central or local authorities, occupies a somewhat unique and very responsible position in relation to diagnosis. Under the Diseases of Animals Act of 1894, the certificate of a veterinary inspector is conclusive evidence in a court of law that disease exists, and practically every Order of the Board of Agriculture lays down that an official diagnosis in respect of all scheduled diseases is to be made by a veterinary surgeon occupying the position of veterinary inspector.

The veterinary surgeon, then, who intends to take up preventive medicine should not only extend his clinical experience of the contagious diseases of animals, but he should devote a good deal of his time in the laboratory to making himself acquainted with the technique and proper application of histological examination, and of those bacteriological methods which are of very considerable value in the diagnosis of bacterial diseases in their occult stages. The behaviour of the test animals of the laboratory towards the viruses of these diseases should also receive much attention. It is not suggested that technique alone will make a man an authority on veterinary sanitary science. It is obvious, of course, that he must also devote much study to the multiplicity of factors which operate in the dissemination of disease, and to methods of control and eradication; that is, to those subjects which have been grouped under the heading of epizootiology. The best fields for educational efforts of this kind are again, the laboratories of the veterinary schools with large clinic and the laboratories of State departments. It is advisable that a portion of the period of study should be spent on the Continent, because a varied experience is of itself educative; and it is necessary, if you wish to make the acquaintance of certain diseases which have been either banished from this country, or not yet allowed to enter it, but for which veterinary inspectors must always be looking out. I refer to such diseases as cattle plague, pleuro-pneumonia, rabies, epizootic lymphangitis, sheep-pox, dourine, and I think even a hypercritical public might agree to foot-and-mouth disease being included in this not unimportant list. It may be asked what length of time a man should devote to this kind of training? I think the reply is, until he feels capable of catching new ideas and methods as they rise, and competent to submit them to examination, that he may not be automatically carried away by every wind that blows, however seductive. It is certain that in this country, at least, the State veterinarian will never have the good fortune of finding a clean slate upon which to commence operations. It is therefore advisable that he should also devote a considerable amount of attention to the relative importance of good science and good administrative government, and to the necessary compromises which must often be made to make his operations accord with both.

Those whose bent decides them to train seriously as scientific investigators will have elected to pursue a course of study which is the most emancipated and attractive, but at the same time the most arduous and endless. Whatever be the subject which has stimulated you to devote yourself to it, training is to be acquired by serving periods of apprenticeship, as it were, under one or several distinguished masters. It is advisable also, that some attention should be given to teaching as a profession, since it is included in the duties of some of the appointments you may wish to obtain.

No doubt you will ask yourselves what the material prospects are for men who have studied hard to acquire special proficiency in the various branches of the veterinary profession. I would suggest to you in the first place that a feeling of greater competence, if it does not

arise merely from conceit, is worth something, and although competence may not always bring material rewards, it very frequently does.

General practice is the widest outlet, and will always absorb the greatest number of followers. Moreover, it is an open-air life, and it is the most lucrative branch of the veterinary profession. Nobody can shut his eyes, of course, to the fact that, in the cities at least, a great deal of horse traction has been replaced by motor driven vehicles. In country practice, however, the horse is by no means the only animal for which the services of veterinary surgeons are required, nor does it seem to be approaching extinction. There has certainly been a falling off in the horse-breeding industry, as regards light horses at least, but, as you are no doubt aware, an organised movement supported by public funds is now on foot to encourage farmers to breed the still very indispensable commodity—the weight-carrying horse.

I am inclined to think that general practice is not nearly so depressed as some practitioners would have us believe, and I would point out that, although the Chancellor of the Exchequer has not seen his way to make concessions in relation to the tax on petrol used by practitioners for their magnificent motor cars, he has so far refrained from threatening the profession with an Insurance Act forcing them to treat their patients for six shillings per head per annum, medicine included.

Those who take up veterinary State medicine must look to the departmental and municipal services for employment. I doubt if it is fully realised that there are at least twelve British Colonies and Protectorates which recruit their veterinary departments exclusively from the colleges of the United Kingdom, while there are several others in which British graduates stand a good chance of employment. Some of the former departments are certainly small, and are never likely to require more than one or two officers, but the majority are considerable, or small only because they have been very recently established. Seven have come into existence in the last six years, five of which promise considerable development. I am in a position to say that at least two important principles influenced the authorities in establishing these departments, namely, that the first thing to do before settling a colony is to settle the question of its animal diseases, as far as possible, and that it would be unwise to send out any but the best qualified men available for this purpose. It is not in the Colonies and Protectorates alone, however, that the expert in State veterinary medicine is in request. At home we have the Veterinary Department of the Board of Agriculture, the chief duties of which are to control and investigate diseases of animals. I hope I may be excused if, for the purpose of accentuating the importance and permanence of organised departments of preventive veterinary medicine, I mention the fact that in the last four years foot-and-mouth disease has in mysterious ways been imported into Great Britain no less than six times, and that each outbreak was completely suppressed in little more than a week at a total cost of a few thousand pounds. This disease was imported five times during the nine months of the present year, and spread to four premises from the original outbreak. The importance of preventive medicine in Great Britain will be realised by consulting the latest returns from the Continent, which show that during August alone 37,737 outbreaks of foot-and-mouth disease were recorded in Germany; in July 12,358 were recorded in Holland; 4,097 in Belgium; and 16,027 in France; where it has been estimated that the loss will amount to over fifteen millions sterling.

In addition to those diseases which are already scheduled, and for dealing with which the services of specially trained veterinary surgeons are required, there

are others of the first importance, notably Johne's disease, epizootic abortion, and tuberculosis. These only await the final ripening process of public opinion to add them to the list. They are not diseases, the prevalence of which is the least likely to be influenced by ordering an extra few hundred cubic feet of air space. Progress will only be effected by reporting, followed by skilful diagnosis, and tracing up the sources of infection with the view of suppressing them, and such work can only be done well by specially trained veterinarians.

I am not going to commit the indiscretion of prediction, but I would observe that the view that the Diseases of Animals Committees of the County Councils should have at their exclusive command the advice and other services of veterinarians specially trained in State Veterinary Medicine, has so much to commend it that it is possibly not very far off consummation.

I have left the largest Department, the Army Veterinary Service, to the last, because in this case special knowledge of preventive medicine is not the sole professional recommendation. I understand, however, that special qualifications of this kind are regarded with no small favour.

In the world of veterinary investigation and research there is ample room for numerous devotees. Veterinary pathology has attracted a few men, but too few to devote their professional lives to its study. Physiological investigation has been almost severely left alone by British veterinarians. The services of veterinary helminthologists are urgently required in the interests of agriculture, and veterinarians with special training and skill in this branch of their profession would be practically sure of employment. Of course it has to be admitted that the prolongation of the period of unremunerative work consequent upon training increases considerably the cost of education. It is difficult to believe, however, that poverty alone, on the part of parents at least, has been the cause of so few graduates training in veterinary science as distinct from practice; but I would like to draw your attention to the material assistance which the Board of Agriculture, from money allocated from the Development Fund, offer to promising graduates who desire to train seriously as investigators. Twelve scholarships of the value of £150 a year for three years will be offered in each of the years 1911, 1912, and 1913. Veterinary graduates of distinction will be eligible for such scholarships; which, it should be noted, will not be awarded to enable the recipient to work for degrees by examination, but to train as investigators. This, however, is not all: under the same scheme for the development of agricultural research and investigation funds will be available to enable certain institutions to maintain workers on specified subjects, some of which are veterinary, and, undoubtedly, there will be a more assured future than heretofore for those whose qualifications deserve recognition. There has never been a time in the history of veterinary medicine in this country, when the prospects seemed so encouraging for those who elect to devote themselves seriously to preventive medicine or to research. I think I might also say that there is no branch of the profession you have chosen which is in the least overcrowded. Small as our numbers are, however, I feel sure that as a profession we will do our best to play up to what new opportunities have been given us, and to make our response a good argument upon which to base demands for more.

To come back now to the all-important question of What are you going to do when you are qualified? May I advise you, while giving the fullest consideration to what men of knowledge and experience have to say, that the process of making up your minds should, in no sense, be a passive one.

The CHAIRMAN in proposing a hearty vote of thanks to the lecturer, said portions of the old question of veterinary education had been discussed in the address, but it had struck him that Mr. Stockman had sounded an original note; and he certainly had shown the value to a student of a post-graduate course, not only in the direction of better mental knowledge, but also in regard to financial reward. Mr. Stockman had pointed out that there were openings abroad and in this country under the State and Municipalities, in all of which the man who had taken the post-graduate course had the better position. He (the Chairman) thought that the lecturer might even have laid more stress on the fact that such a course gave a student a wider basis educationally, with the result that he took double the interest in his work.

Most people, he supposed, had regretted the fact that they had not received as much education as they ought to have done—not at the time; probably they objected to it then, but in the later years that fact came home to them. The majority of men had to take their children away from school at seventeen, and if a boy was away from Polytechnics or other extra educational establishments, he had not sufficient basis for the rest of his education. The lecturer had touched upon that point, and it struck him (the Chairman) as being a very important one. Mr. Stockman also asked the question, How long should a man pursue his post-graduate course? and in reply stated, Just as long as was necessary to make him an exact man, capable of understanding things more thoroughly than he otherwise would. Being an exact man was simply being a scientific man. He asked all present to give a hearty vote of thanks to Mr. Stockman.

The vote was carried with acclamation.

Mr. STOCKMAN, in acknowledging the vote, said it gave him great pleasure to receive the vote. If his few remarks ever came to be of any use, he would be still more pleased.

Principal Sir JOHN M'FADYEAN, in announcing the list of awards, said that on a former occasion similar to the present, he had suggested that before long it might become impossible for the Governors to award the Coleman prizes in accordance with the wishes of the testator. The prizes were at present awarded on the results of special knowledge shown by candidates regarding three subjects:—in the diseases of the horse's eye, diseases of the horse's foot, and glanders. On the occasion when he previously referred to the contingency, he said the time might come when there would be no glanders in this country, and that it would then be, perhaps, unreasonable to expect teachers to be able to train students adequately regarding that disease, or to expect students to have an extensive knowledge of glanders. He was happy to say, speaking now two years later, he could with much greater confidence predict that the time was not very remote when there would be no glanders in this country. That statement did not appear to have received the approbation he had expected. But, although during the past session cases of glanders had not been quite so numerous as in the past, the opportunity would no doubt be continued of teaching students practical connection with glanders during the coming session.

PRIZE LIST.

Coleman Prizes—Silver medal: Mr. J. T. Edwards; Bronze medal: Mr. G. F. Steevenson; Certificate of Merit: Mr. H. E. Hornby.

Centenary Prizes.—Class A: Mr. F. J. Andrews; Class B: Mr. H. W. Dawes; Class C: Mr. R. H. Knowles; Class D: Mr. G. F. Steevenson.

Royal Agricultural Society's Medals.—Silver medal: Mr. J. T. Edwards; Bronze medal: Mr. G. F. Steevenson.

Ralli Prizes in Practical Surgery.—1st Prize, £5 5s. Mr. F. E. Heath; 2nd Prize, £3 3s.: Mr. J. T. Edwards; 3rd Prize, £2 2s.: Mr. W. P. Stokes.

Clinical Prizes.—Class A.—1st Prize: Mr. E. E. Jelbart; 2nd Prize: Mr. W. H. Wortley; 3rd Prize: *æq.* Messrs. F. H. Stanton, C. H. S. Townsend.

Class B.—1st Prize: Mr. H. Hicks; 2nd Prize: *æq.* Messrs. W. H. Priston, R. H. Stalker; 3rd Prize: Mr. W. B. Howe.

Class C.—1st Prize: Mr. E. B. Reynolds; 2nd Prize: Mr. S. J. Gilbert; 3rd Prize: Mr. W. F. Morton.

Class D.—1st Prize: Mr. C. Holland; 2nd Prize: Mr. J. T. Edwards; 3rd Prize: Mr. G. F. Steevenson.

Class Prizes.—Class D.—Veterinary Medicine: 1st Prize: Mr. C. Holland; 2nd Prize: *æq.* Messrs. J. T. Edwards, G. F. Steevenson. Surgery: 1st Prize: Mr. G. F. Steevenson; 2nd Prize: Mr. J. T. Edwards.

Class C.—Pathology: 1st Prize: Mr. S. J. Gilbert; 2nd Prize: Mr. R. H. Knowles. Hygiene: 1st Prize: Mr. R. H. Knowles; 2nd Prize: Mr. S. W. Marriott. Materia Medica: 1st Prize: Mr. R. H. Knowles; 2nd Prize: Mr. W. F. Morton.

Class B.—Anatomy: 1st Prize: Mr. H. W. Dawes; 2nd Prize: Mr. J. M. Penhale. Histology: 1st Prize: Mr. W. B. Howe; 2nd Prize: Mr. H. W. Dawes. Physiology: 1st Prize: Mr. H. W. Dawes; 2nd Prize: Mr. W. B. Howe.

Class A.—Chemistry and Toxicology: Biology: Minor Anatomy: 1st Prizes: Mr. F. J. Andrews; 2nd Prizes: Mr. F. H. Stainton. Practical Chemistry: 1st Prize: Mr. W. H. Wortley; 2nd Prize: Mr. H. H. Curson. Physics: 1st Prize: Mr. R. W. D. Easom; 2nd Prize: Mr. F. J. Andrews.

On the motion of Col. Duck, a hearty vote of thanks was accorded to the Chairman for presiding, and the proceedings terminated.

The Tuberculin Test in Cattle.

In the *Illinois State Register* of August 9th, the views of Dr. James A. Egan, the Secretary of the Illinois State Board of Health, are stated in regard to the use of the test in cows. Dr. Egan commences by conceding that when intelligently and properly applied by a person skilled in its use, and with a working knowledge of diseases of cattle, the test is one of the best means of diagnosing tuberculosis in cows, but he affirms that he is opposed to its indiscriminate application. His chief objections are that it is positive in the presence of the slightest infections which may never spread to the udder, and that it may, on the other hand, be negative and fail to disclose a case of generalised tuberculosis in which tubercle bacilli are being passed in the milk. He is therefore of opinion that dependence on this test may lull authorities and the public into a sense of false security, and he urges the wisdom of examination by competent veterinarians to discover disease, to enforce cleanliness, and to order the segregation of animals clinically tuberculous or with suspicious abnormality of the udders. A large amount of evidence has now accumulated in regard to the uses and limitations of the tuberculin test both in man and animals. It is generally recognised that the test may be negative in milinary tuberculosis, in advanced cases, and in tuberculous meningitis, and that it may be positive in quiescent or clinically inactive lesions. It is, moreover, obviously inapplicable when there is fever. In spite of these limitations it is a useful test, and, according to Mohler in a Bulletin presented to the Public Health and Marine Hospital Service of the United States in 1908, it affords accurate diagnosis in 97 per cent. of cases in cattle. We agree with Dr. Egan that it would be unwise to rely

upon this test only and we endorse his plea for intelligent and skilled examination of the cows as well, but if the test were carried out by competent veterinarians this would be ensured. We do not agree that the physical examination should alone be relied on to the exclusion of the tuberculin test or that only clinically tuberculous cows should be excluded. The ultimate object of hygienic measures in regard to the milk supply is the eradication of the disease, and it is generally admitted that this is not easy to recognise in cattle in the early stages by physical examination only. It is also important to note that the experiments of the Royal Commission on Human and Animal Tuberculosis proved that bacilli may be present in the milk of cows with tuberculosis but showing no evidence of disease of the udders.—*The Lancet*.

Flies and Infection.

A fourth report on flies as carriers of infection issued recently by the Local Government Board contains a continuation of Dr. Graham-Smith's experimental work on the relation of flies to bacteria, an investigation of their relation to parasitic worms by Dr. Nicoll, and a series of observations on the flight of flies by Dr. Copeman and others.

Dr. Nicoll's report deals with the transmission of the eggs of parasitic worms through the agency of house-flies. The only investigations recorded of any importance were made in Italy nearly thirty years ago by Grassi, and twenty-three years later by Grassi, and twenty-three years later by Calandruccio. Their observations left little doubt that the fly was an extremely probable agent in the dispersal of certain worms—notably *Hymenolepis nana* and *Trichocephalus dispar*. They also showed that the eggs were carried in the intestine of the fly and deposited in its excrement. Dr. Nicoll's work yields ample confirmation of these conclusions, and brings out several new points. Both he and Graham-Smith remark upon the fly's habit of cleansing itself. This apparently hygienic procedure might at first commend itself, but, although it serves to get rid of gross contamination, it results in a renewed infection of the legs and body from the proboscis. Nicoll sums up the general facts which are known in regard to the life-history and mode of transmission of parasitic worms and the characters of their eggs. The size of the latter appears to be the most important factor in their relation to flies, for the ordinary house-fly is unable to swallow particles exceeding 50 μ in diameter. This fixes a limit to the size of egg which can be ingested, and, as many parasites produce eggs exceeding this size in one or both diameters, they must be much less likely to be disseminated by flies. The experiments were conducted chiefly with the tapeworms, *Hymenolepis diminuta* and *Tenia serrata*. The former produces eggs exceeding the limit; the latter much under. It was found that the eggs of *Tenia serrata* could be ingested in hundreds, that they might remain in the intestine of the fly for two or three days without being destroyed, and that, when deposited, they retained their infectivity. It was further noted that faeces containing tapeworm segments afforded flies the opportunity for contaminating food for at least a fortnight after exposure. With regard to the conveyance of eggs on the external surface of flies, although this was demonstrated several times even in the case of such large eggs as those of *Hymenolepis diminuta*, Nicoll is evidently not inclined to attach such far-reaching importance to this mode of transmission as to that by the intestine, and in this respect he is in agreement with Graham-Smith in the case of bacteria. It is obvious that, where foodstuffs and infective excremental matter are separated by no great distance, external conveyance is the most ready means of transmission.—*B. M. J.*

DISEASES OF ANIMALS ACTS 1894 to 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.	
	Outbreaks		Animals				(including Farcy)		Counties Affected			
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Animals.	Out-breaks	Animals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.
Gr. BRITAIN. Week ended Sept. 30	20		24		1	16	4	21	London 18	1	33	374
Corresponding week in	1910	17		17			8	22		2	28	234
	1909	25		31			15	36		2	15	201
	1908	17		22			22	47		4	41	260
Total for 39 weeks, 1911	648		803		9	441	152	367	Middlesex 3	311	1921	22347
Corresponding period in	1910	1081		1289	2	15	288	861		350	1090	9864
	1909	986		1310			420	1500		476	1323	11987
	1908	820		1092	3	112	635	1932	647	1593	9400	

Board of Agriculture and Fisheries, Oct. 3 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Sept. 30	...	...	...	...	...	...	...	4	2	57
Corresponding Week in											
1910	...	...	...	...	...	...	...	2	6	...	1
1909	...	...	...	...	...	...	...	...	2	...	48
1908	...	...	...	...	...	...	...	1	4	...	...
Total for 39 weeks, 1911	...	7	14	...	...	2	3	52	265	104	1765
Corresponding period in											
1910	...	5	8	...	...	1	2	60	364	73	1708
1909	...	6	6	...	...	...	...	67	309	86	1561
1908	...	7	10	...	...	...	...	33	281	141	3247

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 2, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,
WAR OFFICE, WHITEHALL, Sept. 28.

SPECIAL RESERVE OF OFFICERS.
ARMY VETERINARY CORPS.

W. J. E. McKenzie to be Lieut. (on probation). Dated
Oct. 4.

OBITUARY.

JOHN BRIGHAM, M.R.C.V.S., Pocklington, Yorks.
Graduated, New, Edin: April. 1887.

Mr. Brigham died at his residence on Sept. 22nd, from
Broncho-pneumonia. Aged 60 years.

J. KNOWLES, V.S., Murrow, Wisbech, Cambs., died on
Sept. 27, from cerebral apoplexy. Aged 73 years.

CORRESPONDENCE.

UNUSUAL SKIN AFFECTION IN CATTLE.

Sir,
I was much interested in the cases of skin affection described by Mr. Hills in *The Veterinary Record* of September 30th. Evidently the outbreak is similar in many respects to the disease that exists in the South of Ireland. As I am now treating a typical case in a milch cow close to town I have a better opportunity of observing the course of the disease than on other occasions. This animal shows in addition to the lesions at the back of the knees, an eruption over the neck and shoulders. This eruption is in the form of small, hard papules which have a "shotty" feel, these develop into pustules, and after a time "scab" over, and a smooth surface is left when the scab falls off or is removed. The lesions at the back of the knees were very severe, the skin sloughed off in a large patch, and an extensive unhealthy surface resulted, with little tendency to heal. Small ulcerated patches also occurred at the posterior aspect of the metacarpal region.

The owner informed me that the first appearance of the disease observed was at the back of the knees, in the form of similar pustules to those now present on the neck and shoulders.

I may mention that ointments or liniments of any kind seem to aggravate the condition, an application of oxide of zinc and boric acid gives the best results. I need scarcely point out the difficulty in treating a large number of young cattle, as the procedure of catching them is by no means easy, nor is it relished by the owners.

The disease is now prevalent in various districts, and unless the animals are cured before cold, wet weather sets in it is likely that complications will arise, and considerable loss will result. Cattle suffering from the affection will not be purchased at either fairs or markets, once the public get to know its contagious nature.—Yours etc.,

E. WALLIS HOARE.

Sir,

I was very interested to read in *The Veterinary Record* of Sept. 23rd Mr. Wallis Hoare's article on "An unusual skin affection in cattle," as I have met with several such cases this summer.

The animals chiefly affected have been dairy cows, the majority of which were Jerseys, but at one farm several Devon bullocks were affected, at another several Jersey calves, and these at first gave one the impression they were suffering from ringworm; at another farm a Dutch bull was affected in both hind legs.

The symptoms described by Mr. Wallis Hoare are like those I met with, and nearly always the back of knees was the first place noticed, but soon the skin between the knee and the fetlock was affected causing great irritation and

swelling of the legs; the animal walked very stiffly, and when lying, did so with its legs extended. The Dutch bull had both hind legs affected nearly up to the stifles. The calves were affected on the legs, but there were also various circular patches over the the body denuded of hair, just like ringworm, in fact I was called in to attend them for this; the patch differed from ringworm in that the patch of dead hair and skin could be pulled clean off. I do not consider it is contagious, and I believe the whole trouble is caused by flies. Eczema breaks out at the back of the knees, and is increased by the cows constantly licking the parts—scores of flies continue to settle on the sores and so make matters worse. The back of the knees seems to be a favourite spot for flies, and I must confess that I have never before seen the animals tormented by flies so much as I have this year.

The treatment I adopted was first to prevent the animal licking the sores, and to keep the flies away; this I did by putting on a cradle and in bad cases putting the animal into "trousers"; in ordinary cases the cow's legs had to be syringed with a disinfectant solution before they would stand still to be milked. An aperient if necessary, and an astringent, antiseptic ointment applied twice a day seemed to be sufficient, and in about three weeks they were right again. The cows were kept in during the day and turned out at night.

I have seldom before met with similar cases and certainly have not had them so bad nor had so many affected as during this exceptional summer. It would be interesting to hear the experience of others.—Yours faithfully,

WALTER W. GOLDING, M.R.C.V.S.

Hertford, Oct. 4.

Sir,

During the last fortnight I also have had a similar case of skin affection in cattle, as described by Mr. Wallis Hoare in *The Veterinary Record* of Sept. 23rd.

Four steers were affected in a herd of eighteen; they were two years old and showed precisely the same symptoms: swollen knees and arms, with an angry, painful scaling of the skin from the back of the knees down to the fetlock joints. When made to move they walked very sore upon their toes, and when recumbent they showed great disinclination to rise. Eventually a deal of sloughing took place. They were turned out in a field through which a stream runs, and I put the cause down to their standing so much in the water this season.

I found that an aperient, with emollient liniment: afterwards an healing dressing to the sloughs has been sufficient to effect a cure.—Yours truly,

FREDK. AIREY, M.R.C.V.S.

Biggleswade, Beds. Oct. 4.

DISEASE IN PIGS—ANOTHER ENQUIRY.

Sir,

I notice an enquiry in *The Record* for Sept. 30th ult. as to a disease of young pigs, the symptoms of which were simply those of extreme peeling of the skin, and which in every instance ended fatally. This note is not intended as an answer, but simply as a supplemental enquiry.

A short while ago, I visited two litters of very young pigs which appeared to be affected with a similar disease. They all showed extreme erythema and peeling of the skin and, in addition, the usual signs of fever: thirst, etc., but no marked diarrhoea or other symptoms. On making a post-mortem examination of one of them, I discovered no unusual lesions. The stomach contents were more or less normal, and the bowel contents were of the nature of soft putty, and somewhat slate-coloured, but there were no signs of gastritis or enteritis—ulcerative or otherwise.

I may remark that the sows had been partly fed on boiled fish offal, but I am not aware that this, through the medium of the milk, should make any difference to the health of young pigs. Moreover, both the sows appeared to be quite well, though all the youngsters died.—Yours truly,

M.R.C.V.S.

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Co. Kilkenny, December 28th. 1907.

The Stock Inspector of the Pastures Protection Board, Singleton, Australia, when ordering (May 17, 1907) 200 doses of "Blacklegoids," stated: "This is the third year I have used your 'Blacklegoids,' with a result far better than I or the owners of the cattle ever anticipated. I do not know of an instance where it did not act as an immediate preventive."

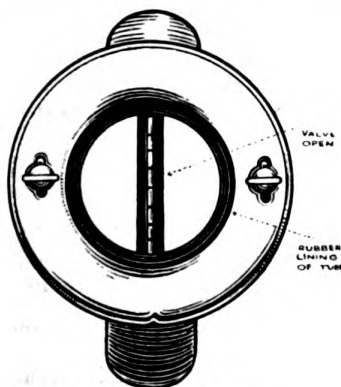
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The cover is fixed on the cylinder with a **bayonet-fastening**; for the purpose of **thorough cleaning** it is provided with a segmental incision, by means of which it can be detached from the piston-rod by sliding it off side-ways. When **completely** taken apart the Record Syringe **forms 3 parts only: cover, piston and barrel.**

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To Veterinary Surgeons

LOCUM, assistant, branch manager, veterinary surgeon desires permanency, sporting, hunting, country practice. Experienced, reliable, practical, hard worker, castrate standing, good obstetrician, 34, single. Excellent references, interview. Address, 5074 V.R. 20 Fulham Road, London, S.W.

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Notice

WILL gentlemen wishing to advertise in this column please note that our time for receiving is Thursday MORNING, and that 2 p.m. is "Latest."

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The Nineteenth Course of two months Practical Training will commence on Friday, October 13th.

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WEST OF ENGLAND. Practice in good breech and hunting district, returning £600 per annum. In present hands 10 years. Convenient house with surgery, stabling etc., rent £55. Premium one years purchase.

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IRELAND. Partner wanted to take charge of practice returning about £1200 per annum. Rent of premises £82 per annum inclusive. Contracts produce over £400 per annum. Practice has been in present hands 12 years. Premium required for half-share £500.

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SURREY. Rapidly increasing, well-established practice returning about £1000 per annum. Small house with stabling, kennels, etc. Capital required, including valuation, will be about £1300. The practice is well-known to us and can be thoroughly recommended to a suitable man.

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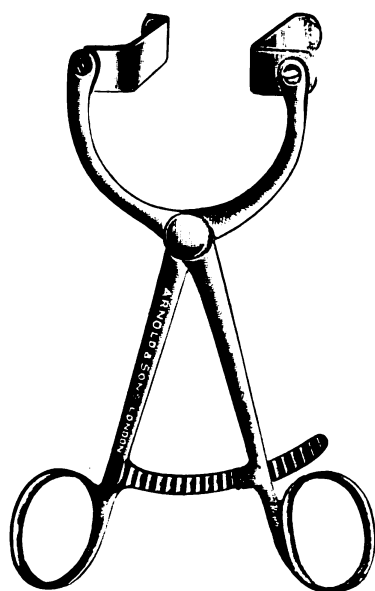
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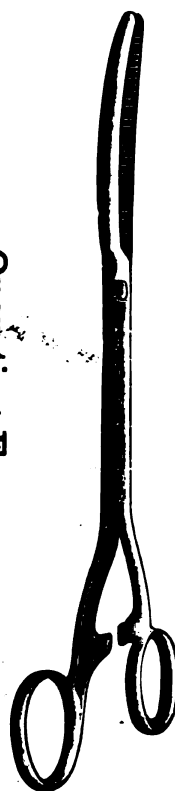


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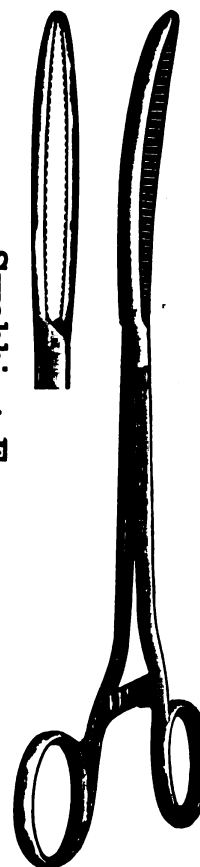


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Lincolnshire V.M.A.

A MEETING will be held at the "Albion" Hotel, Lincoln, on Friday, October 20th. Professor F. Hobday will give a demonstration upon Dr. William's "Operation for Roaring," at the yard of Messrs. Hartley and Son, at Friar's Lane at two o'clock. Mr. W. W. Grasby, M.R.C.V.S., of Daventry, President, will take the chair at the meeting, at 3 o'clock. Agenda Routine business. Address by Professor F. Hobday upon the Ventricle Operation. Members are invited to exhibit Pathological Specimens. Tea at 5 o'clock.

C. W. TOWNSEND, Hon. Sec. & Treas.

West of Scotland V.M.A.

A Meeting will be held within the Religious Institution Rooms, 200 Buchanan Street, Glasgow, on Friday, 20th inst. at 4.30 p.m. A paper will be read by Mr. James McFarlane, M.R.C.V.S., on "Horses Suitable for Heavy City Work." ROBERT MITCHELL, Junr., Hon. Sec. & Treas.

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BY M.R.C.V.S., (1909), aged 25, assistantship in large mixed practice. Practical, sober, industrious. Excellent testimonials. Address, 1102 V.R., 20 Fulham Road, London, S.W.

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THE DANGER OF RABIES FROM FOXES.

A fortnight ago we reprinted a newspaper report of an inquest upon a Master of Foxhounds, at which the medical opinion was expressed that death was due to hydrophobia. There was a clear history of a bite from a hunted fox, received near the end of last hunting season, and the symptoms of the subsequent fatal illness in September, as reported, certainly read very like those of hydrophobia. Nevertheless, veterinary surgeons and medical men alike would generally regard the diagnosis as open to grave doubt. No case of animal rabies has been established in England since 1902, and it is difficult to believe that the disease can have lingered so long amongst foxes without being transmitted to dogs. Again, it is known that there are acute nervous affections of the human subject—though it is true that such cases are rare—the symptoms of which may closely simulate those of hydrophobia. Taking the report as it stands, it certainly cannot be held to prove the existence of rabies in England.

Facts have since transpired, however, which tend to support the diagnosis of hydrophobia. We hear that a number of foxes have been imported into England, and that some of these were certainly set free in the district in which this alleged case of hydrophobia occurred. This fact puts a different complexion upon the matter. It does not, of course, prove that the diagnosis in this one case was correct. But it opens the door to the possibility of a recent importation of infection amongst foxes in the district in question—along with other districts, and thus considerably weakens the previous grounds for doubting the diagnosis. Upon the whole the probability seems to be that the case was one of hydrophobia.

This reveals a loophole in our existing regulations against rabies. The importation of foxes should certainly be stopped, and we hear that steps are already being taken in this direction. Doubtless, also, some enquiry will be made as to whether the importation of other species of animals, which has hitherto been unchecked and almost unnoticed, may not constitute a possible source of danger. It is clear that for some time to come, veterinary surgeons should remember that local outbreaks of rabies, especially in the country, are at least possible, and they should keep upon the alert. It goes without saying that the district in which this case occurred, and especially its pack of hounds, will be carefully watched.

VETERINARY SCIENCE AND ITS RELATION TO THE COMMUNITY.*

By Dr. O. CHARNOCK BRADLEY.

The name and memory of William Dick, a native of this city, born in White Horse Close, will ever be held in reverence by the profession of which he formed so distinguished an ornament. To his penetrating foresight and indefatigable energy the genesis of this College is due. On his loyal and great-hearted generosity the continuance of the College after his death depended. Eighty-eight years ago Dick might have devoted his energies to the conduct of a private practice and the accumulation of wealth. Fortunately for veterinary science his was a more altruistic character. Instead of working for his own gain merely, he followed the advice of Dr. John Barclay and, in a humble way, laid the foundation of the first veterinary school in Scotland. Of what the germ of his school was like we can form some idea from the words of one who wrote as an eye-witness. "You may fancy to yourself," says the writer, "a room of no very great dimensions in an old and apparently long untenanted house in Clyde Street. You enter it from the street door and are immediately struck with the delightful confusion which seems to reign within. Skeletons of all descriptions, from a horse to an ape, not ranged in regular order "all of a row," but standing higgledy-piggledy, their ranks having been broken by the Professor's table, and their heads looking in all directions, as if thrown together by chance. . . . Of that portion of the house which is set apart for the audience, the best thing I can say is that whenever I dropped in I have always found it remarkably well filled. It is fitted up with rough deal plauks, set upon rough props; the seats rising tier above tier until your head touches a very dark-coloured ceiling."

From this modest beginning the College grew, and grew rapidly. Extension after extension was made; elaboration after elaboration became necessary. In the beginning Dick was unassisted; but ultimately he was forced to gather around him a staff of teachers, some of whom later became famous in the veterinary and wider scientific world.

I think that without the slightest exaggeration or distortion of facts we may say that as Dick's College grew, so came into being a veterinary profession in Scotland, and the growth of the two was interdependent. When the veterinary school was first projected a veterinary profession could scarcely be said to exist on this side of the Border. We are told that at that time there were not more than a dozen practitioners in Scotland, with the result that animal owners were almost entirely at the mercy of charlatans and quacks of the most ignorant description. With the dissemination of veterinary knowledge resulting from the establishment of the Clyde Street School properly qualified practitioners became increasingly numerous and of vastly improved training.

* Inaugural Address delivered at the opening of the 89th Session of the Royal (Dick) Veterinary College, Edinburgh, October 4, 1911.

The rule-of-thumb man gradually—unquestionably, very gradually—gave place to him who was equipped to take a more scientific and therefore more commonsense view of the causes and treatment of animal diseases.

When William Dick died in 1866, "in the full tide of successful experiment," he had stamped upon veterinary science so indelible an impression that the good work he had initiated continued, and became ever more and more fruitful.

Veterinary science, not only in Scotland, but in the United Kingdom and throughout the whole civilised world, has benefited by the movement which had its origin in the "old and apparently long untenanted house in Clyde Street." It was said during Dick's lifetime, and has been said since his death, that the Clyde Street School catered for the requirements of Scotland only. This is not, and never has been, according to fact. While Dick was still living 818 students graduated from this College, and of these barely more than half belonged to Scotland. A large proportion came from England and Wales, some from Ireland, and others from the Colonies and from foreign countries. Clearly the Edinburgh Veterinary College in those days was not parochial. What was true from 1823 to 1866 remains true to-day. Into the uttermost parts of the earth, beyond the confines of the seven seas, men have gone forth from the narrow and somewhat gloomy street where for all but ninety years the school has been located. Not long ago it was possible to say that the Principals of all the Veterinary Colleges in the United Kingdom could claim the Clyde Street School as their *alma mater*, as can at the present moment the heads of the schools in London, Glasgow, Dublin, Sydney. Not only in Scotland are graduates of this College practising their profession, but an examination of the official Register of Veterinary Surgeons shows that practitioners trained within these walls are doing their work and maintaining the traditions of the school in every county of England, in every county but one in Wales, and in every county but three in Ireland. They are to be found in nearly all the King's Dominions beyond the seas. They may be met in many of the States of North America, and in South America.

To give a list of famous men who have sat on the benches within this College would be tedious from its length. Let it suffice to say that former students have occupied and are occupying the most exalted positions in their profession. Almost as tedious would it be to recount the names of famous men who have been teachers in this school. Taking merely a few who have attained world-wide repute, and avoiding the perils attendant upon an assessment of their eminence, the roll contains the names of Sir James Dewar, Fullerian Professor of Chemistry, Royal Institution; Sir John M'Fadyean, Principal of the Royal Veterinary College, London; James McCall, Principal of the Veterinary College, Glasgow; A. E. Mettam, Principal of the Royal Veterinary College of Ireland; Stewart Stockman, Head of the Veterinary Department of the Board of Agriculture and Fisheries; Daniel John Cunningham, the much lamented late Professor of Anatomy in the University of Edinburgh; J. G. McKendrick, Emeritus Professor of Physiology in the University of Glasgow; Isaac Bayley Balfour, Professor of Botany, University of Edinburgh; James Arthur Thomson, Professor of Natural History in the University of Aberdeen. These, as well as other men of eminence, have helped to make the school what it is, and have influenced, and been influenced by, the traditions of the institution.

Were we asked to state adequately but briefly what veterinary science has done since the time William Dick first entered Clyde Street as a teacher, we should find the task one of great difficulty, and of difficulty because of a richness of material. Beyond question veterinary science has performed a humanitarian function of sur-

passing moment in that it has rescued animals from the rough and ready, and even barbarous treatment to which they, when ailing, were subjected during the earlier part—nay, even during a later part—of the nineteenth century. An examination of the tattered manuscript books which it was, and possibly still is the custom to hand down from father to son among farmers, village smiths, and country quacks, produces a feeling of wonder that animals could survive the treatment to which they were subjected, and the weird and loathsome decoctions with which they were drenched. Unquestionably the growth and development of veterinary science has resulted in more humane and therefore more efficacious modes of treatment.

Descending from the humanitarian to the utilitarian standpoint, it can be claimed without hesitation that veterinary science has been of inestimable benefit to the community. In how far the wealth of the country has been, and is being conserved cannot be definitely computed, but an approximation may be attained by the examination of published statistical tables showing the prevalence of contagious diseases and the loss of animal life arising therefrom during the past thirty or forty years.

The recent outbreaks of foot-and-mouth disease have caused a certain amount of commotion among stock-keepers, and trade has been in a degree affected. What must have been the result of the 18,732 outbreaks in 1883 when no fewer than 461,145 animals of various kinds were attacked! And what the dislocation of trade when in February of that year all the country markets were closed for a month.

Contrast the isolated and, now-a-days, infrequent appearances of the disease in the United Kingdom with the returns as given for Continental countries. On the 15th June in Germany alone there were no fewer than 16,504 infected places. Holland had 4,602 outbreaks during the month of May. In Italy 25,004 animals were affected during the week ending April 30th; and in Russia there were 58,274 cases in the month of February. By contrast the returns made by our own Board of Agriculture pale into almost absolute insignificance. Nevertheless it cannot be forgotten that a severe outbreak of foot-and-mouth disease would be a very serious thing. Recently Sir Edward Strachey has, in public utterance, pointed out that not only would there be great loss to the agriculturist, the general public would suffer enormously because of a shortage of milk. This possibility makes it incumbent upon the State to encourage, if not to institute, detailed investigation of the mode of transmission of, and possibility of complete protection from the disease.

The annual reports of the Board of Agriculture afford abundant evidence of the saving of animal life from other contagious diseases, and the consequent prevention of monetary loss to the country.

Cattle plague, which on more occasions than one has produced the wholesale decimation of herds, has been unknown since 1877. In 1891, 9,491 cattle were slaughtered on account of 192 outbreaks of pleuro-pneumonia. This disease has not been known in this country since 1898, whereas from 1891 to 1898 inclusive nearly 16,000 animals were destroyed.

Thanks to efficient steps having been taken, rabies (the very name brings terror) has ceased to exist in this country.

Sheep-scab, which formerly caused so much loss to sheep-owners, is steadily declining, so that last year there were only 556 outbreaks as compared with 1,939 eleven years ago, and 3,092 sixteen years ago.

Glanders, a disease to be feared by man because of its capacity of transmission from animals to the human subject, has also shown a steady decrease during recent years.

The only serious animal diseases which have not as

yet been materially affected by preventive measures are anthrax and swine-fever. These have offered problems difficult of solution, but there is no reason to despair of the ultimate reading of the riddle. Other diseases have prevailed for a time, but scientific investigation and the application of knowledge arising therefrom have ultimately resulted in their subjection. There is much to be hoped for in inoculation and serum-therapy.

While speaking of contagious diseases, it is perhaps not entirely beside the point to make reference to certain facts relative to diseases among animals in more distant parts of the Empire. As will be readily admitted, the presence of contagious animal disease is a factor which tells heavily against the spread of civilisation and the development of the resources of our colonies. Clearly, man cannot establish himself permanently and satisfactorily in any part of the world without domestic animals. Man situated in those regions where animals survive with difficulty is, therefore, seriously handicapped. This is the case in certain parts of Africa. I have been informed recently that during 13 months some 44,000 cattle have died in one single district from East Coast fever. Translate these figures into pounds, shillings, and pence and we appreciate something of the troubles of the African stock-keeper. It is scarcely necessary to say that the authorities are quite alive to the fact that this state of things, and the proper development of the country are not compatible. A properly organised staff of scientific workers is dealing with this and similar diseases, and on that staff graduates of the Dick Veterinary College are extensively represented. Report has it that there is great probability that a means of dealing with East Coast fever will soon be at hand. When this is accomplished the Dick Veterinary College will doubtless shine by reflected glory, for one of our graduates is at present pursuing a very promising line of investigation.

With the help of statistical tables, which are readily available, it is easy to show the decrease in contagious diseases. The prevalence or otherwise of non-specific disease is not so easy of demonstration. It is beyond doubt, however, that veterinary science, by disseminating knowledge regarding the maintenance of hygienic conditions, is doing much to lessen the more common ailments of farm and other animals. Agricultural science has done a very great deal to reform the methods of the farmer. The tiller of the soil has now only himself to blame if he follows the haphazard and unsatisfactory procedures of his forefathers, and reaps accordingly. But in the improvement of agriculture veterinary science can claim a share. The housing and feeding of animals has been studied not only from the purely scientific but also from the economic point of view. It has been demonstrated that there is a right and a wrong way of regarding the animal machine from the point of view of the economist.

In a further very important direction also science is helping agriculture. Breeding is being slowly raised from a process in which chance played the greater part to one in which there may be much certainty. The immortal if muddle-headed Mr. Tulliver was doubtless voicing the impression of most, if not all, his contemporaries when he said: "That's the worst on't wi' the crossing o' breeds you can never justly calkilate what'll come on't." Without wishing to arrogate to science more than is her due, and while admitting that scarcely more than the fringe of the subject has been touched, it may be claimed that the very juvenile science of genetics has already justified its existence, and will, beyond doubt, be of inestimable assistance to the breeder of the future. There can be little doubt that, at no very distant time, it may be possible to "justly calkilate what'll come on't" when certain breeds and individuals are crossed.

The conviction that medical science, veterinary no

less than human, must of necessity step aside from its purely curative function and give due regard to preventive measures, is of no new origin. For long it has been felt that preventive medicine had a great future before it, and it is becoming daily more evident that the conviction was well founded. Preventible disease is decreasing; with the more general adoption of hygienic measures it is safe to prophesy that it will continue to decrease. The study of the principles of immunity and their application also make for prevention in no trifling degree.

When disease does effect a lodgement, modern therapeutics—not forgetting serum-therapy—constitutes a powerful weapon whereby the practitioner may stay its ravages. Without doubt the veterinary surgeon of to-day is more fortunate in his equipment than were his predecessors, and not least so in the possession of medicaments, unknown to those who went before him, which have received such attention at the hands of investigators as has removed their use from the realm of empiricism.

In the immediate future, even more than in the present, it will be necessary for the veterinary profession to take a large share in the work of that organisation which has been evolved for the preservation of the health of the people considered as a community. During recent years it has become more and more apparent that the veterinary officer has a function in public health administration scarcely less important than that of the medical officer. It is clear that the health of the community is constantly menaced by danger of a double origin. Not only may disease and death have a human source, there is an animal source as well. Some diseases, such as glanders and anthrax, may be conveyed from animals to man by accidental inoculation. Other specific diseases, such as tuberculosis, may be transmitted to the human subject by the consumption of unsound meat and milk. From his knowledge of all the phases of disease in animals, no one is better fitted than the veterinary surgeon to assist in the safeguarding of man from disease of animal origin.

In most large towns—shall we say in towns blessed with enlightened authorities—there is a staff of efficient and specially trained veterinary officials. The value of their services cannot be put into figures, but in a town like Edinburgh we can say that it is through the instrumentality of highly competent veterinary inspectors that we eat sound meat and drink wholesome milk.

The day is not far distant when veterinary public health officers will form a considerable proportion of the profession. That these men must continue and amplify the work they have been doing for some time past has been emphasised by the recently published Final Report of the Royal Commission on Tuberculosis. In 1901 a Royal Commission was appointed in order that three questions regarding tuberculosis might be answered if possible. One of the questions was whether the disease in animals and man is one and the same. This has been answered in the affirmative, so also has the question whether animals and man can be reciprocally infected with it. Of the three questions the third is of supreme importance from a public health point of view, and was stated in these terms: "Under what conditions, if at all, the transmission of tuberculosis from animals to man takes place, and what are the circumstances favourable, or unfavourable, to such transmission." The Report of the Commission, upon which sat one of the most eminent members of the veterinary profession, a graduate of the Dick College, may be allowed to answer the question largely in its own words. "Only rarely has a pulmonary lesion in adult man yielded the bovine bacillus." But "our experience of abdominal tuberculosis in the human subject has been very different, especially as regards children. Of young children dying from primary abdominal tuberculosis, the fatal lesions could in nearly

one half of the cases be referred to the bovine bacillus and to that type alone. In children, too, and often also in adolescents, suffering from cervical gland tuberculosis, a large proportion of the cases examined by us could be referred to the bovine tubercle bacillus." "Whatever, therefore, may be the animal source of tuberculosis in adolescents, and in adult man, there can be no doubt that a considerable proportion of the tuberculosis affecting children is of bovine origin, more particularly that which affects primarily the abdominal organs and the cervical glands. And, further, there can be no doubt that primary abdominal tuberculosis, as well as tuberculosis of the cervical glands, is commonly due to ingestion of tuberculous infective material." "The evidence which we have accumulated goes to demonstrate that a considerable amount of the tuberculosis of childhood is to be ascribed to infection with bacilli of the bovine type transmitted to children in meals consisting largely of the milk of the cow." "But it must be remembered that we have found cases of tuberculosis in adult man sufficiently extensive to incapacitate the patient from the ordinary duties of life, and in two instances ending fatally, in which we were able to attribute the disease solely to the effect of the bovine tubercle bacillus."

The extent of these quotations is justified by the imperative necessity that the public and public authorities should be informed, on every possible occasion, of the momentous conclusions arrived at by a body of scientific men who have devoted their energies to the matter for the past ten years. With no uncertain voice have they made it clear that the services of the veterinary surgeon are needed—and urgently needed—in order that that much and naturally dreaded disease, tuberculosis, may be exterminated. For the sake of the children alone, if not also for the sake of adolescents and adults, tuberculosis in animals must cease to exist, and in the work of bringing about this eminently desirable state of affairs the veterinary officer of health, as well as the veterinary surgeon in general, must take a part. One more quotation from the Commission's report. "In the interests therefore of infants and children, the members of the population whom we have proved to be especially endangered, and for the reasonable safeguarding of the public health generally, we would urge that the existing regulations and supervision of milk production and meat preparation be not relaxed; that on the contrary Government should cause to be enforced throughout the kingdom food regulations planned to afford better security against the infection of human beings through the medium of articles of diet derived from tuberculous animals."

In view of the fact that fresh fields of activity are opening up for the veterinary surgeon both at home and abroad, no effort must be spared to keep the veterinary schools abreast of modern requirements, or rather one should say that the schools must be ahead of present needs in order that there may be a suitable margin of preparedness for subsequent developments. The present is a momentous period in the history of veterinary science in general, and particularly in Scotland. The next few years, it is confidently expected, will see such changes as will render it certain that the Dick College will advance in its position as one of the leading veterinary schools of Europe. The governing authorities are alive to the fact that the modern veterinary graduate must have a very different training from that received by his predecessors. Not only must he possess a first-hand knowledge of the more ordinary branches of his profession; he must be prepared to enter the ranks of those specialists who are so rapidly increasing in numbers. The graduate must not be content to have been spoon-fed by his teachers. He must have seen things for himself, *i.e.*, he must have done practical work in the laboratories and in the hospital, in the stable, the

byre, and the kennel. He must know something of veterinary public health administration. He must, in short, be ready with a substantial foundation upon which to erect a super-structure of knowledge for utilisation in his work as a general practitioner, as a member of the Army Veterinary Service, as a public official, either at home or abroad.

This means that the veterinary schools must expand their accommodation and equipments; must not relax in any degree their efforts to provide their students with a sound preliminary professional grounding, must be in a position to meet future calls upon their resources.

It must not be forgotten that to the schools look the practitioner, the animal owner, the agriculturist, and the general public for those additions to knowledge which shall make for increased efficiency of the professional man, which shall produce diminution of animal disease, and which shall ensure greater safety of the community from diseases and dangers of animal origin. Great though the recent advances of science may have been and many the secrets which have been probed, there is no fear that the scientist will imitate Dr. Busby and decline to remove his hat in the presence of the King for fear that the by-standers may not note what a great man he is. That which has been done merely serves to give some feeble indication of how much remains to be done, and engenders a feeling of humility rather than pride. There can be no resting on our oars. We must pull towards the light. The schools, therefore, in addition to being places where students are trained, must also be in a position to give habitation and encouragement to those who are prepared to devote their time and energies to the elucidation of problems the solution of which can but be of benefit to their fellow men.

AN UNUSUAL CASE OF POLL-EVIL.

A brown cart mare had been treated several times for a slight swelling over the region of the poll; being an extremely difficult animal to control, no surgical treatment was adopted until absolutely necessary. The swelling would break, discharge a small quantity of pus, then disperse, and the animal would work for some considerable time until the swelling appeared again. She was recently admitted to infirmary with a much larger swelling than usual, which broke and discharged a fair quantity of pus; the mare would not submit to handling of any sort, so we decided to cast and operate.

The animal was chloroformed and a probe passed from a sinus on top of poll, the direction of which was downward and forward. On attempting to open this outward so as to secure drainage the knife came in contact with bone. We were completely at a loss to understand the anatomical condition, it seemed quite impossible, however, to secure adequate drainage, the ligament was curetted and the animal allowed to rise, which she did without much trouble. In about 24 hours she was down in the box and unable to rise; we then suspected that we had probably got into communication with the spinal cord. The mare was destroyed with a thoracic injection of hydrocyanic acid.

Post-mortem.—The ligamentum nuchæ was diseased, but not to any great extent: there was,



Posterior aspect.



Lateral aspect.

AN UNUSUAL CASE OF POLL-EVIL.

To illustrate case by H. D. Jones, M.R.C.V.S.

however, a fairly recent bony deposit on the occipital bone, there was also a recent deposit of bone on the floor of the spinal canal between the occipital bone and the atlas. The photograph of the posterior aspect of skull shows the canal into which the probe was passed—the knife was probably on the floor of the spinal canal. The atlas was completely fused to the occiput, no condyles could be seen, and the right styloid process was ankylosed to the wing of atlas. No movement of any sort was possible between the skull and atlas, the angle at which the atlas was fixed is peculiar, as shown in photograph of lateral aspect.

H. D. JONES, M.R.C.V.S.

Peckham, S.E.

GASTRIC AFFECTIONS OF RUMINANTS.

As Mr. E. Wallis Hoare has invited opinions re the gastric diseases of ruminants, from his fellow practitioners, I give my opinions thereon for what they are worth, and they are the result of many years practice, and of a particular interest in cattle practice. I am quoting facts and not writing from book reference. We are students always, and I am always happy to learn something from my professional brethren—an interchange of opinion and of experience gleaned from long years of practice is a good thing for us all, as we are apt to get into certain grooves in diagnosis and treatment which, to many old practitioners, are as the laws of the Medes and Persians, which altereth not.

A good book on cattle pathology is much needed, particularly now that horse practice is on the wane. Cattle is perhaps not so clean as horse practice, and is not always as easy of diagnosis and treatment, but it is quite as lucrative, no motor car will oust the cow or sheep, so it behoves the coming V.S. to give more time to the study of the diseases of cattle and sheep, and even poultry and pigs. I hope success will attend Mr. Hoare's efforts and that his book will run through many editions.

Now as to Mr. Hoare's queries.

No. 1. Does impaction of the omasum occur as a disease *per se*?

My experience is in the negative. I have never in all the post-mortems during 34 years experience seen any but a dry condition of this part of the digestive tract of the bovine, both in health and disease. Of course there are degrees of dryness, but have never seen them really soft. I think it quite possible that the contents of the omasum may be dryer where inflammation of the abomasum exists, due no doubt to retention of its contents while the function of the true stomach is in abeyance.

I quite agree with other practitioners that purgatives given in excess have a very deleterious effect. I often wonder how bovines stand as much dosing with physic of various kinds as they do without fatal results, it is no uncommon thing to hear of cattle getting a stone of treacle, 2 or 3lb of salts, Ol. lini. by the quart, currants, rancid bacon, sundry pounds of butter, etc., and yet, in spite of all this

treatment the animal does not *always die*. I expect the major yart of this mixture lies dormant in the rumen; a certain amount of absorption no doubt takes place, but very little acts on the other stomachs and intestines. We were taught that fluids administered *slowly* by the mouth passed on to the reticulum, but I believe from post-mortem evidence that the bulk passes directly into the rumen, a part may pass on to the reticulum and act as a purgative.

The digestive organs of bovines are wonderful in their operation. The rumen I look upon as a reservoir to collect all that is eaten to satisfy hunger until that craving is satisfied; rumination then takes place, and the reservoir is gradually emptied by the beautiful and complex action of the reticulum, etc., there is no doubt that a certain amount of roughly masticated food finds its way into that viscus, and from thence passes on by an automatic process to the oesophagus and mouth where rumination takes place, and then the mixture of this masticated food with saliva, etc., passes on to the omasum, and there undergoes a process of squeezing, and absorption of the more fluid parts, the rest passing on to the abomasum and intestines.

The terms "Murrain," "Dry murrain," "Red Murrain," "Blain," "Gloss anthrax," "Worm in the tail," etc., I am afraid I am lamentably ignorant of, and I hope Mr. Hoare will, in his new book, treat them as "Terminological inexactitudes," and beneath the notice of an up-to-date treatise on cattle diseases.

Query No. 2. "Gastritis." This disease is not uncommon, and in my experience, both acute and subacute, and in the acute form is undoubtedly very fatal. The causes are certainly very obscure in many cases, but I am quite of opinion that it is due in most cases to errors of diet. Cold is another cause; changeable weather, standing in water when heated, etc. I have known it follow the animal being fed on too great a quantity of mangolds, soya cake, rich fog grass, acorns, potatoes, white turnip tops, decomposing turnips, and in some cases to some unaccountable herbage. I had cases recently where several head of cattle died from inflammatory disease of the abomasum and intestines with effusion of blood, they fed on a certain pasture and for two years running in the month of August the same disease appeared. I reported the case to the Board of Agriculture, and a veterinary inspector was sent down to investigate the disease, and although a post-mortem examination was made on a beast which has just died, and I sent the blood of one that was ill to the laboratory, no definite diagnosis was made. Brackens and tormentil were suspected as the cause, but on cattle being fed on these plants at the laboratory at Alorton, negative results were obtained.

In the case of inflammation of the abomasum from eating acorns, mangolds, soya cake, white turnip tops, and decomposing mangolds and turnips, and potatoes, I believe it due to some irritant in the composition of these foods, or it might be called a toxin. I have heard that white turnip tops and mangolds contain a certain quantity of oxalic acid, but have not been able to verify this.

I have seen brain and nervous symptoms in cases of abomasitis, the animal showing great excitement and distress, a rise of temperature taking place in most cases: there is generally a complication of enteritis, the contents of the intestines often being sanguineous—this state, of course, being found post-mortem.

I always give aperients in repeated small doses (but never large doses of strong cathartics), followed by treatment of symptoms.

In impaction of the rumen, which occurs from many causes, chiefly, I believe, from a gluttonous beast over-eating itself, and in some cases from drinking too much very cold water. I rely on oft-repeated doses of aperients combined with tonics of various kinds, and if tympanitis occurs my sheet anchor is *Ol. menth. pip.*, *Tinct. nux vomica*, and *Spts. amm. arom.*, and these have, as a rule, the desired effect. The trochar and canula and rumenotomy as the last resort.

When paralysis of the digestive tract takes place, the cases take a lot of bringing round, and the cause of death is often due to this state of things as the post-mortem reveals nothing to account for death. During inaction we often have cases of indigestion there is no doubt.

No. 4. "Spewing the cud." This I have seen often, but could never satisfy myself as to the cause. I am always suspicious of nerve lesion, and treat accordingly; they generally recover the normal cud with this treatment. I once had a case that was most intractable and went on for weeks, the trough being half full of half masticated hay and fluid. I thought it a hopeless case, but all at once it stopped, and the cow regained its natural cud and got fat; it might have been due to the bursting of an abscess. Casting the temporary teeth may account for some of these cases. It is a common trouble in calves, but they generally recover as they get older.

G. E. NASH.

Richmond, Yorkshire.

ABSTRACTS FROM FOREIGN JOURNALS.

CEREBRAL EMBOLUS PRODUCED BY "STRONGYLUS VASORUM."

Capdebelle and Hussenet record (*Revue Vétérinaire*) the case of a fox-terrier bitch, fifteen months old, which for eight days refused all solid food, only taken a little milk and vomiting it almost immediately. Suddenly she manifested epileptiform attacks, showing rather marked prostration, contraction of the muscles of the limbs, twisting of the head upon the neck, oscillation of the eyes, salivation, and emission of urine. The attacks were repeated frequently in the day and caused the death of the animal.

Post-mortem, lesions of acute gastro-enteritis were found. The lungs were filled with miliary granulations of a greyish colour and a firm consistence; in certain parts of the lung more voluminous nodules were seen. Histological examination

of cut sections showed that each nodule had developed in a small branch of the pulmonary artery containing strongyles, which proved to be specimens of the *Strongylus vasorum*.

The brain was examined, and its left hemisphere showed a rounded brown patch, about four-fifths of an inch in diameter, very slightly depressed and softer in consistence than the surrounding tissue. Incision of this revealed a hæmorrhagic focus, containing a clot the size of a large nut, and extending as far as the roof of the lateral ventricle. Microscopical examination showed a strongyle embryo, still living, in the midst of the clot.

This unexpected discovery explained the pathology of the symptoms which had been observed. The centres of pulmonary strongylosis, which had been unsuspected during the life of the animal, had allowed the escape of a strongyle embryo, which had gained the left side of the heart, had thus become launched into the general circulation, and had become arrested in a capillary of the brain.—*Annales de Méd. Vét.*

(Without a careful post-mortem examination this case might easily have been set down as "ptomaine poisoning," arising from digestive disturbance.—*TRANSL.*)

BISMUTH INJECTIONS INTO FISTULÆ IN VETERINARY PRACTICE.

Bauza (*Revista de Méd. Vét. Montevideo*) gives an account of the now well-known "Beck's method" of treating old fistulæ, which consists in the injection of a mixture of wax, vaseline, paraffin, and subnitrate of bismuth. He reports four cases in which the method gave him excellent results. One was in a young Normandy bull having an abscess of the left side, which had been opened and treated without success by various antiseptics. Recovery took place in fifteen days after two injections. The second was in a Dutch cow having an abscess of the shoulder, which also had been treated without success. Treatment by Beck's method led to recovery at the end of twenty-five days after only one injection. The third was in a draught horse having a voluminous hæmatoma in the region of the haunch, which had been opened, became infected, and resisted ordinary methods of treatment. Recovery took place under Beck's method after a single injection. The last case was in a mule, the pectoral region of which bore an abscess having a fistulous course, originally caused by a pointed foreign body. This recovered in eleven days under Beck's treatment by means of a single injection.—*Annales de Méd. Vét.*

TUBERCULOSIS OF THE TESTICLE AFTER CASTRATION BY CRUSHING.

Gergely, of Hatvan, records (*Allatorvosi Lapok*) the following case of an ox, which, when castrated, had been operated upon by the method of crushing the testes. At the age of eight years, this animal was brought to the slaughter-house, it being said that a veterinary surgeon had advised his destruction on account of nephritis. The ox's temperature was then 104.3° F., and the pulse counted 56 per

minute. Bleeding was very free after division of the cervical vessels.

Post-mortem, the peritoneal cavity was found to contain 15 litres (about 26 pints) of a reddish transparent fluid; while the pelvic wall showed numerous tubercles ranging from the size of a millet seed to that of a bean.

The spermatic cords were swollen to the thickness of the human arm, with the remainder of the testes attached to their ends. The latter—each of which was about the size of a child's head—when cut into, showed a marbled surface of section beset with numerous caseous foci.

Castration by crushing of the testes had established a *locus minoris resistentie*, in which tubercle bacilli (probably coming from the intestine into the circulation in the first place) had collected and set up tuberculosis of the testes.

The mucous membrane of the bladder also showed some reddish-black coral-like growths. No tuberculous lesions were demonstrated in the kidneys, spleen, bones, and other organs.—*Berliner Tier. Woch.*

INFECTIOUS HEPATITIS OF SWINE.

Josef Tautenui describes (*Allatorvosi Lapok*) an acute infectious disease of swine, leading to death in from 9 to 48 hours, which he has observed. High fever, loss of appetite, prostration, and dyspnea are the symptoms during life; while tympany and putrefaction appear very soon after death. The anatomical lesions are—hyperemia of the large intestine, sanguineous infiltration of the gastric mucous membrane, swelling of the spleen, and a special appearance of the liver, which is soft and swollen, but later becomes almost elastic, and is beset by many vesicles. The lungs are œdematous, and the heart shows fatty degeneration.

The disease is incurable, and generally appears in places where swine fever is prevalent. It may be distinguished from swine fever partly by its rapid course, and partly by the hepatic lesions. It is differentiated from swine erysipelas by the fact that the redness of the abdominal skin which is noticed in its later stages is a hypostatic alteration, whereas in swine erysipelas the skin shows inflammatory symptoms. Moreover, the hepatic lesions are not seen in swine erysipelas.

Microscopically; a bacillus resembling that of malignant œdema is demonstrated in the liver.—(*Berl. Tier. Woch.*)

W. R. C.

SOUTHERN COUNTIES' VETERINARY SOCIETY.

MEETING AT ALDERSHOT.

A meeting was held on Thursday, Sept. 28th, and was rendered additionally interesting by the kindness of the General Officer Commanding in Chief (Aldershot Command) in affording an opportunity for the inspection of the Army Veterinary School. The business meeting was held at the Royal Hotel, Mr. S. H. Slocock, of Hounslow, presiding in the absence, owing to illness, of the President, Mr. W. Hunting, and the following mem-

bers and visitors also signed the attendance book: Prof. G. H. Wooldridge, London; Messrs. H. A. Archer, Southsea; W. Burt, junr., J. H. Lockwood, Brighton; G. W. Bloxsome, Harold Leeney, W. K. Stuart, Hove; B. H. Benson, Reading; W. Caudwell, Chertsey; W. A. DellaGana, Southampton; C. W. Howard, Dorking; F. G. Samson, Mitcham; H. Smith, J. Alex. Todd, Worthing; D. Wyllie, Staines.

Visitors: Major A. C. Newsom, A.V.C., London; Messrs. C. Barnwell, H. G. Brookman, A. N. Cannon, Worthing; W. H. Brown, W. W. Henderson, and A. Whitelaw Carter.

On the proposition of Mr. Burt, seconded by Mr. Smith, the minutes of the last meeting as published in *The Veterinary Record* were taken as read and confirmed.

The Hon. Sec. reported that he had that morning received a telegram from Miss Hunting in the following terms:

"My father is ill in bed. He desires to express his regret. He especially wished to see the Army School and take part in the discussion on Mr. Bloxsome's paper."

The CHAIRMAN said he was sure they all regretted the absence of their President, and that it would be their wish to convey this regret to Mr. Hunting. He suggested that they should ask Mr. Todd to write a letter to that effect.

Prof. WOOLDRIDGE: And also express our hope for his speedy recovery.

Mr. STUART seconded, and the proposal was at once agreed to.

Apologies and expressions of regret at inability to attend were also announced from the following: Col. F. Smith (A.V.S.); Prof. F. Hobday; and Messrs. E. Whitley Baker, R. Burt, A. L. Butters, C. J. Callow, W. A. Collins, J. B. Dier, Haywood Jeffries, J. B. Martin, W. F. Maynard, F. Marks, D. Pugh, R. Roberts, C. Roberts, W. Shipley, C. H. Spurgeon, R. A. Thrall, F. T. Walder, and A. Whicher.

A letter was read from the Editor of *The Veterinary News* inviting subscriptions towards the fund which is being raised to assist Mr. William Kirk in his appeal against the action raised by the London County Council to compel veterinary surgeons to pay for the use of the College crest.

Mr. DELLA GANA proposed that the matter rest where it was and that they take no action, and this was seconded by Mr. Burt.

Prof. WOOLDRIDGE, on the other hand, suggested that they should give a subscription to the fund. He did not regard this at all as a personal matter. For himself he should not think of using the crest, but there were other members who might wish to do so, and he thought they ought to support them.

Mr. Burt, Mr. Stuart, and Mr. DellaGana, however, all spoke strongly against taking any action in the matter.

Prof. WOOLDRIDGE, in the circumstances, announced that he would not press his amendment to a vote.

Mr. DellaGana's motion not to take any action was accordingly put and carried by five votes to two.

A communication from Prof. Gofton *re* the scheme for the amalgamation of Veterinary Societies, was on the suggestion of Mr. Burt, ordered to be placed on the agenda for consideration at the next meeting.

NOMINATIONS.

Messrs. W. W. HENDERSON, of Haslemere, and T. A. B. COCKSEGE, of Emsworth, were nominated for membership, on proposition of Mr. Archer, seconded by Mr. Burt.

The selection of a place for the next meeting was next considered, and on the proposition of Mr. Burt, seconded by Mr. Stuart, it was decided to meet in London during the Cattle Show week, as in former years.

"SOME DEBATABLE POINTS OF UNSOUNDNESS IN HORSES."—By Mr. GERALD BLOXSOME. (Adjourned Discussion).

Mr. W. A. DELLA GANA reopened this discussion, and read the following contribution :

All of you have no doubt seen the very interesting and practical paper by Mr. Gerald Bloxsome on "Some debatable points of unsoundness in horses," read at a recent meeting of this Society. The points raised by the essayist for discussion, refer mainly to the definition of soundness and unsoundness ; and its relation to splints, sidebones, ringbones, the abnormal development of processes of bones, and spavin, most of them resulting from some form of otitis.

With regard to a definition of the term "unsoundness," I think the simplest one I know of, is—any deviation from the normal, which is, of course, purely a classical one. A more practical definition, I venture to say, would be, "Any defect in the animal likely to, immediately, or at any future time, prevent it from doing that work which might be required of it."

We know that there are few horses over five years old which do not exhibit "splints"—the most common form of exostosis in equines. Many foals were born with them. Much has been written on the subject of splints, and notwithstanding, we still look upon them as an unsoundness, and it remains for us to advise our clients accordingly. I do not think that there is a more troublesome cause of intermittent and severe lameness in its earlier stages in horses than due to splint formation. Once a splint always a splint, and I quite agree with the essayist inasmuch that he would preferably purchase a horse with a splint than a horse without one, splints are undoubtedly an unsoundness and should always be mentioned in certificates.

Most of you who have had experience amongst heavy horses will appreciate Mr. Bloxsome's remarks upon the vexed question of sidebones, a fruitful and, in my opinion, a frequent cause of unsoundness and lameness in horses of the heavier breeds. I believe that some practitioners go to the extent of not considering this as a serious condition at all, provided that the foot be a large and open one. On the contrary, I have found sidebones a very frequent cause of lameness in heavy cart-horses, especially when overtaxed with work. We know of horses with immense sidebones doing their work continuously and well without showing any lameness whatever. My contention is that a horse affected with sidebone, so long as the feet are not subjected to lateral strains such as for instance the horse bringing the foot hard down upon an uneven surface, it will continue in work free from lameness.

I have not yet seen a light horse, hunter or hackney, affected with sidebone free from stiffness or lameness, but I will not deny the utility of such an animal. We know that many military horses are annually cast as useless for being affected with sidebone.

Ringbone, to my mind, is a very much more serious condition than the foregoing, and a frequent cause of lameness in all breeds of horses.

It is in the earliest stages of development when we find the greatest difficulties in arriving at an exact diagnosis. The so-called incipient ringbone is responsible for much difference of opinion.

I quite agree with Mr. Bloxsome regarding his remarks upon the coarse development of the processes on the distal ends of the os suffraginis, a condition which occurs mostly in underbred horses. The only possible means to arrive at a definite decision is to examine the opposite leg, and should the condition prove to be symmetrical, or there be a general defective conformation of the whole of the extremities, we might then express a guarded opinion.

Lastly, but not least, the essayist refers to that hardy annual, that burning question, "A spavin or not a spavin?"

No bone disease of equines has in past times, and I think I can safely assert in future times also, has, and will, excite as much controversy as this one.

Apparently what we have to decide is "When is a spavin not a spavin?" for any enlargement on the inner side of the horse's hock, no matter of what nature, is generally referred to as a spavin.

This question, gentlemen, will, I think, alone provide ample matter for discussion, and should we be able to arrive at some definite conclusion, then I think we will have reason to congratulate ourselves.

DISCUSSION.

The CHAIRMAN said he hoped the discussion would be kept alive, for he was sure the paper warranted it. There was just one stipulation he ought to make perhaps. They were expected at the Army Veterinary School at half-past three, which did not give them very much time, and if each of them would confine his remarks, say to five minutes, it would give them all a fair chance.

Mr. BURT remarked that there was one or two points he would like to mention, or rather to obtain information upon, if that were possible. Mr. Bloxsome said he could honestly say that when a sidebone was so formed that one could positively state that it was present, he had never seen the horse suffer from lameness from it.

Mr. BLOXSOME : When you can feel the sidebone above the coronet.

Mr. BURT : You have never seen a horse lame from sidebone?

Mr. BLOXSOME : No.

Mr. BURT, continuing, remarked that a large proportion of his practice had been among heavy horses, and while he had never been able to say that the animal was lame from sidebone when he could not discover it, they had suggested there was an inflammation of the coronet which was possibly the commencement of sidebone. In his experience forty per cent. of the lameness of the fore feet in cart horses was due to sidebone, either formed or sufficiently palpable for them to be able to say definitely it was sidebone. Personally he was a great believer in firing horses for sidebone, and he had found they generally came up sound again after five or six weeks. Of course, the trouble might not have been due to sidebone, but if it was not it was rather a remarkable coincidence. One might say, he supposed, that in ninety-five per cent. of the lameness there was no veterinary surgeon who could speak positively as to the cause, but when they started diagnosing by a sort of negative reasoning, commencing with the shoulder downwards, and found at last the presence of sidebone, he thought they would admit that at all events they had then got something to go upon. To take another point, Mr. Bloxsome had remarked on the fact that sidebone did not appear to be so common amongst hunters, but here again it was very difficult to disprove a statement of that kind. He had seen one or two light hunters used for harness work that had sidebone, and they had been distinctly lame. They had nothing else the matter with them, and the only assumption one could consequently form was that they were lame from the presence of sidebone. Mr. Bloxsome told them the conclusion he had arrived at was that although they must clearly class sidebone as an unsoundness, still in the state in which they were able to recognise it it did not cause lameness, but if it did not cause lameness why class it as an unsoundness.

Prof. WOOLDRIDGE asked in what way Mr. Burt fired for sidebone.

Mr. BURT : Either puncture firing or line firing.

Prof. WOOLDRIDGE: The reason I asked is that a so-called modification of Smith's operation is sometimes practised with success.

Mr. SAMSON had not read the paper very minutely, but there were one or two points he certainly could not agree with Mr. Bloxsome upon. It might be, however, that their practice had been among a different class of horses. With regard to the liability to an action at law, he had always understood they could not compel a man to take a horse back, the proper way was to resell the animal and then bring an action to recover the difference in the price. With reference to splints, Mr. Bloxsome said a good deal was made of the position, but that when once formed and the horse went sound he did not believe it made the slightest difference where it was placed. In his (the speaker's) opinion if they got a splint well up under the knee it did make a difference—and a radical difference, for that horse was more than likely to be unsound, and very lame for the rest of its natural life.

Then, again, Mr. Bloxsome said he believed in the statement once made by Professor Macqueen that the latter had never seen a horse lame from sidebone, but he (Mr. Samson) certainly could not agree with that. In the course of his experience he had seen many cases of lameness from sidebone and nothing else, and the lameness had unfortunately lasted—sometimes much to his cost. With firing for sidebone he had had very good results, but he found the majority of people put the firing off until the sidebone was too well formed. For firing to be any good in cases of sidebone it should be done early, and then, he thought, it was quite immaterial whether they used the deep puncture firing or the line firing. To take another paragraph in the paper, Mr. Bloxsome said he could call to mind many instances of brilliant performers amongst hunters keeping perfectly sound with large sidebones, and he quite believed that. On the other hand there were many cases of sidebone which went very lame and kept lame, particularly where the ground was a bit hard.

Then, again, Mr. Bloxsome stated that true ringbone, where the joint was involved, always caused lameness, but he did not agree with that. It certainly did in many cases, but in many other cases ringbone did not cause lameness any more than splints. As to calling a horse sound, he thought it was a very bad practice to state whether it was sound or unsound. The best plan was to say that in their opinion the animal was practically sound, or was a useful animal and one they could advise their client to purchase, but to point out that it had got splints or sidebones as the case might be, and that these might possibly cause trouble in the future. If they gave a definite certificate that a horse was sound it was ten to one they would have the animal sent back to them sooner or later.

Mr. ARCHER very much doubted whether the fact of putting on a certificate their opinion as to whether a horse was sound or not screened them at all in point of law, because everyone knew the certificate represented their opinion, and the fact of their being qualified to give an opinion bound them in point of law to that opinion. He had seen a good many cases of sidebone in which it had caused lameness, both in heavy and light horses. One reason why they were an unsoundness, or should be considered such in his opinion, was this—especially when they were associated with ringbone—they caused a certain rigidity of the limb resulting in damage to the flexor tendons. It interfered with the natural action of the limb, and they got an extra strain on the flexor tendons which very often caused lameness there. With regard to splints, he was certainly convinced that the position had a very material influence on the question whether it caused lameness or not. When a splint was well forward on the bone so that they could see it, it was not nearly so likely to cause lameness as

when it was further back. Also when it was well up under the knee they almost always got lameness. It was quite possible to have spavin without causing any actual lameness, but there was usually a general stiffness of the joint, if not actual lameness, and any animal with spavin he considered ought to be classed as unsound. Personally, he generally mentioned that such and such things were present, but that otherwise he saw no unsoundness. He thought it was the best way to safeguard oneself from giving a definite opinion. They implied that it was unsoundness but did not actually say so. On the other hand, if there was no interference with the action of the animal he thought they might fairly give a certificate of soundness.

Prof. WOOLDRIDGE did not know but that they were getting a little off the track in discussing the method of writing certificates for unsoundness, although while they were on this matter he must say he did not think it was wise for them to be over cautious in the wording of their certificates. He meant that they should form an opinion and then write that opinion down definitely and clearly, and he did not think Mr. Archer's method was to be recommended. On the question of spavin he quite agreed with Mr. Bloxsome, although he did not know whether he had introduced the term "spurious spavin" seriously. All of them who had had any experience of horses and the examination of them would have examined hocks that had been uneven, but which had given no direct indication of exostosis, and which in the light of after experience they had found to wear exceedingly well. If such a horse passed its trial without showing any interference with its action he mentioned the fact that it had "odd hocks" but did not use the word spavin at all. He did not think it wise to use the term "spurious spavin." Either the animal had spavin or it had not. As regards the legality of certificate he believed that if as professional men they exercised a proper amount of skill and care in the examination of any animal submitted to them, and they came to a certain conclusion, they were not liable in law for damages even if it should be found out afterwards that that conclusion was not correct.

He did not know whether he could agree with Mr. Bloxsome with regard to the effect of splints. He believed he suggested in his paper that one could not legally certify a horse as being sound when splints were present. He thought they could.

Mr. BLOXSOME: You cannot.

Prof. WOOLDRIDGE: Well, if there has been any legal ruling on that point I should like to know it.

Mr. BURT: What is your definition of unsoundness?

Prof. WOOLDRIDGE: Any condition which interfered with the natural usefulness of the animal either at the time or at some future date. Prof. Wooldridge added that he did not suggest the definition mentioned by Mr. Bloxsome of being absolutely free from disease because if that was to be the condition he was afraid there was not a sound horse in the world and never would be.

The effect of sidebone he admitted was a very vexed question. He had seen a large number of horses in which sidebone had not interfered with their action, but he could not agree with Mr. Bloxsome that horses with well developed sidebone never went lame from that condition. It depended perhaps on what they would call lameness. He had seen horses with a decidedly cramped action, and he had regarded that cramped action as a phase of lameness, and as having been due to sidebone. Personally he should certainly class sidebone as an unsoundness, on the ground that it was impossible to say whether lameness would occur or whether it would not. He had been rather surprised to hear Mr. Bloxsome say that at least fifty per cent. of cart horses developed sidebone in studs where the animals had been carefully selected. He confessed that he had no figures to go upon, but he was surprised to

hear the percentage was so large. With regard to the treatment for sidebone he believed what was known as Smith's operation had produced as good results as any.

The CHAIRMAN remarked that before calling on Mr. Bloxsome for his reply, there were one or two things he should like to refer to briefly himself. The first was the definiteness, or indefiniteness, of the certificates which they gave. Personally he did not think it paid to give an indefinite certificate. If there was one failing which they had as a profession he thought it was this one of not being sufficiently definite when they were asked for their opinion, and they would generally find that the practitioners who were doing the best were those who gave the most definite opinions, although very often they might be wrong in those opinions. A man could make any number of mistakes and so long as he was sufficiently definite in his opinion he did not believe it really mattered much, but at the same time when asked to state whether a horse was sound or not, they wanted to allow a certain amount of latitude in the framing of their certificates, because the use of the word unsoundness might deter a client from buying an animal when as a fact the horse would be a very useful one for the purpose for which it was required. He should be inclined to say that in his opinion the horse was sound, adding that he noticed it had splints, but that in his opinion they were never likely to cause any trouble.

With regard to the position of splints, he must admit that that had a very great deal to do with the question. In his opinion a splint did not cause lameness for any length of time so long as it did not interfere with the natural action of the animal. Sidebone also caused lameness on its formation, but it did not follow that lameness would last. He happened to drop into a practice where there were a lot of heavy horses, and he noticed that although he tried to select horses that were free from sidebone he got a tremendous amount of lameness amongst them. In fact he believed he had less lameness in the horses with sidebone than in those without. He thought they sometimes lost sight of the fact that there was a sidebone connected with ringbone, and it was a very shrewd observer who could say a horse was free from ringbone.

Mr. BLOXSOME being invited to reply, remarked that it had been a matter of great gratification to him to have such a long and varied discussion on the thoughts he had committed to paper, but as the time was short he would endeavour to make his reply as brief as possible. The first point he wished to touch upon was that of the definition of unsoundness, and here he should like to say that the definition he had given them was not his own but was the one which was accepted in all Courts of Law. Mr. DellaGana he believed had suggested "any deviation from the normal" as a definition of unsoundness, but he could not agree with that, because a horse might have any number of malformations without its soundness being affected. With regard to sidebones, he fully expected there would be a great difference of opinion about the statement of Prof. Macqueen which he had quoted, but as he had explained he did not say a horse never went lame from it. What he did say was that if they went in the ordinary way of examination and saw a horse with sidebone when the process of ossification had got to that stage that they could feel the formation of the bone above the coronet, he had never yet seen a horse lame from it. Plenty of horses that had sidebone were lame, but that did not prove that they were lame for sidebone. There were many other troubles in the hoof which might be associated with lameness, and if they looked carefully and long enough they would generally find them. One of the most frequent causes of lameness connected with sidebone was low ringbone. There was nothing to be seen or felt,

but they might satisfy themselves by the use of cocaine, or other means, that the lameness was in the hoof, and by a negative process of reasoning they could put everything else out until they came to low ringbone. While the process of ossification was going on below the coronet it was only reasonable that the horse should go lame. No one could say definitely whether it was from the formation of sidebone, but it was quite possible it was. With regard to splints, and the wording of certificate, what he wanted to guard against was the giving of general certificates, such as saying "I examined a bay gelding and in my opinion she is sound." Certificates of that sort were of no practical value whatever, and if a dealer got hold of them they could be used for a dozen of bay geldings. They could not be too careful in getting all the recognition marks possible down on their certificate, and then he did not think they were called upon to say whether the horse was sound or unsound, because according to the law as it is to-day, a horse with splints is unsound. Prof. Wooldridge objected to the use of the term spurious spavin, but he only called it that for the purpose of his paper. They did not want to use the word spavin in any other way than for spavin. The question was to decide what was spavin. He quite admitted that was a difficult point, but what he wanted to draw attention to was that absolute symmetry was not necessary to soundness. All they could do was to exercise every care while they were examining horses where there was a difference in the size of the hocks.

On the proposition of the Chairman, seconded by Mr. DellaGana and Mr. Smith, a hearty vote of thanks was accorded Mr. Bloxsome for his paper, and a similar complaint to Mr. Slocock for presiding, proposed by Mr. Stuart, and seconded by Mr. Lockwood, brought the proceedings to a close.

CENTRAL VETERINARY ASSOCIATION (IRELAND).

A general meeting was held at O'Carroll's Hotel, Ballinasloe, on the 2nd inst. Mr. A. J. Moffett presiding. Present: Messrs. J. Nolans, Birr; E. A. Ryan, Strokestown; W. C. Patrick, Mullingar; A. J. Bolton, Athlone; A. J. O'Dea, Tuam; C. Tracy, Ballinasloe; and E. C. Winter, Limerick, Hon. Sec.

Letters of apology were received from the President, Mr. J. F. Healy and Mr. P. J. Howard, stating they could not travel on account of the railway strike. Apologies were also received from Messrs. M. Hedley and J. Holland.

The minutes of last meeting, as published in *The Veterinary Record*, were approved.

Mr. J. C. Doran wrote and regretted that he had not prepared a paper for the meeting.

A discussion took place on the fact of veterinary inspectorships, under the Contagious Diseases Act, and the Dairies, Cowsheds, and Milkshops Order, being given to laymen, where veterinary surgeons were available.

The Secretary was directed to collect information for the next meeting, from the various public bodies as to the numbers of these appointments and the emoluments they carried, with a view to again approaching the Local Government Board on the matter. Some of the members were of opinion that local veterinary surgeons should take the appointment even at a very small salary so as to retain them in the profession, and then apply for an increase of salary on showing the amount of work done.

The SECRETARY directed attention to the subscription list, many members being in arrears, and was directed to press the defaulters.

E. C. WINTER, Hon. Sec.

ROYAL (DICK) VETERINARY COLLEGE.

The eighty-ninth session was formally opened on Wednesday afternoon, Oct. 3. Sir William Turner, K.C.B. Principal of the University of Edinburgh, presided, and among others present were Dr. O. Charnock Bradley, Principal of the College; Mr. C. Price, M.P.; Sir Andrew McDonald, Emeritus Professor Chiene, C.B.; Treasurer Leishman, Col. Wardlaw Ramsay, and Mr. Robert Anderson, S.S.C., Secretary.

Principal Sir WILLIAM TURNER: We are met to-day under special circumstances, because since the end of the last session important changes have taken place in the staff of the College, and I think it right that I should say a few words in regard to those changes. In the first place Principal Dewar tendered to the Board of Management his resignation. Principal Dewar has been associated with the Veterinary College for I believe some twenty years, and for the last fifteen years he filled the important office of Principal. (Applause.) The Board of Management desire to express their acknowledgment of the services which Principal Dewar rendered during this long period of office. His resignation necessarily involved the re-arrangement of the staff. As his successor the Board have appointed Prof. Bradley. (App.) Those who have been students of the College during the years Dr. Bradley has been Professor of Anatomy know well the zeal he has shown in the discharge of his duties. (App.) But the post of Professor of Anatomy in the Royal (Dick) Veterinary College seems to be a sort of standpoint from which the anatomical professor may jump into a Principalship, for it happens that the Principal of the Veterinary College in London and the Principal of the Veterinary College in Dublin were predecessors of Prof. Bradley in the Chair of Anatomy in this College. (App.) Principal Bradley has now been appointed the lecturer in the University on that branch of Comparative Anatomy which refers to the domestic animals which you have studied in this College. Prof. Gofton has been appointed Professor of Medicine, and the Chair of Surgery which he held has been given to Mr. Ainsworth Wilson, while the lectureship of Hygiene has been filled by the appointment to it of Mr. Basil Buxton.

It is clear that the veterinary profession is now called upon to take a wide grasp of questions affecting the public health—the health of man as well as the health of animals. You cannot indeed dissociate the public health of man from the public health of the animal, because there are so many infectious diseases that the animal can and does transmit to man, so that human medicine and veterinary medicine have a very close alliance and association with each other. Therefore we must now look at the veterinary profession as a profession which is not only concerned in, if I may say so, the doctoring of animals, but which has to do with disease of various kinds in its wide aspects, embracing man and animals. (Applause.) But this study cannot be properly proceeded with unless the veterinary student has for his guidance and help adequate buildings, adequate equipment, and adequate staff of teachers. This important development of the subject with which you are especially concerned has been under the consideration of the Board now for a considerable time, and the first thing that we had really to decide upon was—Is it possible to obtain in this city a site which could be adopted for the building of a College in accordance with the present needs of veterinary medicine and veterinary science? Now I am happy to say that a site has been secured and paid for. (Applause.) Unfortunately I cannot say that we have sufficient money to erect the buildings at the present time, although I must acknowledge the great assistance that we have received from public bodies in Edinburgh, such as the Corporation of the City, the Carnegie Trust, the Highland and Agricul-

tural Society, and the Executive Committee of the recent Edinburgh Exhibition. (Applause.) We have also received valuable assistance from private friends. In the front of those friends I must name one of your own profession—Mr. MacCallum. (Applause.) Not only has he shown his love for his profession by endowing a Chair in the College, but he has still further given handsomely towards the erection of the buildings of the new College. (Applause.) Another friend has been Mr. C. E. Price, M.P., who from the beginning has shown a practical interest in the prosperity of the movement. (Applause.) It remains for me to state that the College has now become a Central Institution under the important Education (Scotland) Act of 1908, and as such we have a claim on the funds that are administered by that Department. I was happy to hear this morning that the Department has recognised the claim, and has already handed over to our Secretary a very handsome cheque. (Loud applause.)

[Principal Bradley's address appears on p. 229.]

Grouse Disease.—The Report of the Committee of Enquiry.

For close on a hundred years the private records and the reports of grouse shooting have contained mention of "disease," an epidemic—if the grouse world may be called a demos—which has done enormous damage. From time to time scientists have turned their attention to the subject; but, until recently, lack of organisation and combination of effort stood in the way of really effective investigation. Towards the end of the nineteenth century two theories as to the cause of grouse disease were chiefly favoured. These were evolved by Prof. Klein and Dr. J. Spencer Cobbold respectively. It was to probe these and other theories to the full that in 1904 a number of gentlemen formed themselves into a Committee of enquiry on Grouse Disease.

The Committee issued an interim report in 1908, and now the final report has made its appearance, published by Smith, Elder, and Co., at two guineas. When the excellence of the production, the illustrations being particularly good, the magnitude of the investigation, and the provision of the terms of reference that no public money be expended on the enquiry—the cost of which to the members of the Committee and private subscribers has been something over £4300—are taken into consideration, there seems reason for surprise that the price at which it may be bought is so small as it is.

Though Prof. Klein's theory was of later date than was that of Dr. Cobbold it may be well to consider this one first. Klein examined a large number of birds, some of which had died in emaciated condition, some in apparently good; and he came to the conclusion that "the congestion of one or both lungs, the congestion of the liver, the small dark spleen, and the patchy redness of the intestine and the peritoneum," and the presence of *Bacillus coli* in the lung and liver of infected birds, proved the true grouse disease to be a form of acute infectious pneumonia—something such, perhaps, as the pneumonic plague which assails the beaver in the streams to the east of Lake Baikal in Western Mongolia. The Committee began by thinking that Klein's disease was a fact, and spoke of it as the "true epidemic grouse disease." And in a few isolated cases that early were brought to their notice the Committee's field observers believed that the lesions described by him, with so much detail, were present. They thereupon, for the next week or two, awaited an inundation of dead birds showing similar lesions. But no epidemic occurred, and the inundation did not happen; and it became evident by degrees that there was something doubtful about the view which had been provisionally adopted.

Later it seemed to be proved clearly that, accurate

and painstaking as Prof. Klein had been in his work and description of what he had seen, his deductions were founded on a misconception. Dr. C. G. Seligmann found in birds that were obviously dying from "grouse disease" there was no dangerous ante-mortem infection of the lung or other tissues with the *Bacillus coli*, and no recognisable lesion in any organ of the bird except in part of the intestine. All the appearance of congestion and pneumonia in the lung were found to be due to post-mortem change alike evident in diseased and in perfectly healthy normal birds. The point was tested by taking a number of healthy pigeons and killing the whole of them at the same time with chloroform. The birds were numbered and opened on consecutive days, and the change in the appearance of the viscera was noted. It was evident that in every case where there had been extravasation of blood or serous fluid, owing to rough handling or damage by the knife in dissecting the pigeon, the tissues of the lung became black and took upon themselves precisely the same appearance that is seen in a grouse found dead upon the moor or examined some days after being shot. The appearance of pneumonia was evidently due to the soaking of the lung-tissue in decomposing blood and serum, and the post-mortem colonisation of the tissues by *B. coli*.

Cobbold's view, advanced just after the famous outbreak of 1872, was that the epidemic was entirely due to the presence in the pair of cæca—those parts of the grouse which correspond to the appendix in man—of large numbers, thousands, of small nematode worms, *Trichostrongylus pergracilis*; and while thinking Klein's the "true" epidemic, the Committee had no doubt that these internal parasites had been responsible for a considerable share of mortality, and the outbreak of 1907 had given them an excellent opportunity for collecting data.

Having come to the conclusion, then, that the "infectious pneumonia" theory was untenable, from 1908 onwards the following points were studied especially: (1) The life history of the *Trichostrongylus pergracilis*; (2) the life-history of the other internal parasites infecting the alimentary tract of grouse; (3) the protozoal parasites infecting the alimentary tract and blood of grouse; (4) the bacteriology of grouse; (5) the various insects found on the moors, both from the point of view of insect-borne disease and the view of food; and others.

It is just possible that the committee's investigators never came across the genuine "Grouse disease"; but, apart from that question, all the outbreaks of disease that have come under their notice—and some 2,000 birds were examined—can be ascribed either to strongylosis or to coccidiosis, the latter the result of the presence in the duodenum of *Eimeria* (*Coccidium*) *avium*—a parasite discovered during the investigations by Dr. Leiper.

Cobbold differed from Klein in one very important respect—viz., that he distinctly indicated that he did not observe any example of a grouse dying in good condition and without having lost weight.

"It is quite clear," say Dr. E. A. Wilson and Mr. A. S. Leslie in their account of the work of the committee, "that one of the most important signs of disease . . . is loss of weight. And this loss of condition, even to emaciation, which follows on strongylosis, is a character to which full prominence is given by all writers about "Grouse Disease," though no measurement of actual weights had ever been recorded so far as was known before the present inquiry began its work. The omission to record weights is all the more to be regretted because the chief characteristic of the only other form of "Grouse Disease" which has been reported is the fact that the weight of birds that have succumbed to it remains normal.

The good condition, however, may have been so

called not as the result of actual measurement but on the bird's appearance of good feather and normal weight when taken in the hand as it lay dead on the moor. "The birds were never weighed, and never carefully examined. Yet without careful weighing and examination it is impossible to come to any reasonable conclusion as to their condition or the cause of death." This has been proved time after time by the committee's field-observer, who has been present when full-feathered, richly-coloured hens, perhaps found almost warm but dead upon their nests, have been weighed in the hand and judged normal, but have been proved to be below normal by the spring balance. In the circumstances, then, the committee seem fully justified in attributing the appearance of "Grouse Disease" to *Trichostrongylus pergracilis*, which they have found to infest the cæca of every acknowledged diseased bird. And while it is possible that the virulent form of disease does sometimes occur, it is also possible that the belief in it is entirely without real reason.

As to the life-history of the strongyle. The worms in the grouse's cæci produce eggs, which pass out of the body with the faeces. If the conditions be moist and from cool to warm (continued drought and heat sterilise the eggs) the larvæ hatch out. About two days later the larva casts its skin and develops rapidly; and eight days from the time of leaving the grouse it is ready to make its way back into the cæca. This is accomplished by climbing up the heather stalks and getting into the top green shoots, on which the grouse feed. And experiment showed that, within fourteen days of its leaving the cæca as an egg, the strongyle is producing eggs. Since countless numbers of eggs are passed by the infected grouse each day the enormous importance of preventing overcrowding on the moor will readily be seen. Still more evident is this in view of the fact that all grouse are infected more or less.

How to diminish the tendency to "pack," by careful management of the heather-burning, and in other ways, is well shown in Lord Lovat's chapter on Moor Management. The maintenance of a plentiful supply of good feed, by systematic heather-burning, draining of bogs, and provision of suitable grit, should promote the health of the birds to such an extent that in the spring, the birds' critical time, they will be able to withstand the attack of the parasite.—*Westminster Gazette*.

B. Coli as a Parasite of Plants

In *Phytopathology* for June J. R. Johnston raises the question of the possibility of *Bacillus coli* being a plant parasite. This organism and its numerous varieties are very widely distributed in nature, but they are known only as harmless saprophytes and no disease in plants has ever been ascribed to them. The experiments carried out by Johnston, however, show that under suitable conditions these organisms may cause considerable damage. Inoculations of a culture of *B. coli* of animal origin were made into the heart wood of cocoanut seedlings. In the course of a month or two in most cases a condition of soft rot appeared around the site of inoculation and from the lesion *B. coli* was recovered. These experiments suggest that certain conditions of rot in plants may be due to bacterial organisms and the supposition is supported by some observations made upon the naturally occurring Budrot disease of cocoanut trees in Cuba. Cultures from diseased trees were inoculated into healthy ones and reproduced the disease. Further reinoculation continued to produce the disease. On study of the organisms in these cultures a considerable number were found to be *B. coli* indistinguishable from strains of animal origin. Johnston accordingly comes to the conclusion that some variety of *B. coli* is the actual cause of Budrot disease in cocoanut trees.—*B. M. J.*

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period	Anthrax.				Foot-and-Mouth Disease.		Glanders (including Farcy)		Counties Affected	Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals	Outbreaks	Animals	Animals Attacked	Outbreaks	Outbreaks	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported								
Gr. BRITAIN.												
Week ended Oct. 7	19		19		8	25	3	4		2	51	685
Corresponding week in	1910	33		35			11	21		4	24	196
	1909	27		33			9	38		5	16	130
	1908	15		19			8	61	London 4	2	25	224
Total for 40 weeks, 1911	667		822		17	466	155	371		313	1972	23032
Corresponding period in	1910	1114		1324	2	15	299	882		354	1114	10060
	1909	1013		1343			429	1538		481	1339	12117
	1908	835		1111	3	112	643	1993		649	1618	9624

Board of Agriculture and Fisheries, Oct. 10 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Oct. 7	...	...	...	...	...	...	...	4	...	47
Corresponding Week in	1910	...	...	...	...	...	...	...	2	1	...
	1909	...	...	...	...	...	...	1	...	...	...
	1908	...	...	...	...	...	...	1	4	5	18
Total for 40 weeks, 1911	...	7	14	...	...	2	3	52	269	104	1812
Corresponding period in	1910	5	8	...	...	1	2	60	366	74	1708
	1909	6	6	...	...	...	...	68	309	86	1561
	1908	7	10	...	...	...	...	34	285	146	3265

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 9, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Quarantined Dogs at Southampton—Important Test Case.

An unusual case concerning quarantined dogs was heard at the Southampton County Bench on Friday, October 6, before Admiral C. J. Rowley, in the chair; Mr. R. A. Bayford, K.C.; Mr. H. Milner-White, LL.D.; Col. W. S. Sinkins, and Sir Alfred Swaine-Lethbridge, magistrates.

Mr. William Augustus DellaGana, F.R.C.V.S., Above Bar, Southampton, for whom Mr. G. Thatcher, London, appeared, was summoned for having 37 dogs at the Bitterne Manor Farm Kennels on August 30th last, without having in force such licenses as were required by the Statute.

Mr. F. V. Barber, Deputy Clerk to the Hants County Council, appeared in support of the information on behalf of Supt. Littlewood, and having cited the Act said the point on which the case turned was whether the defendant kept the dogs or not. He had stated that the dogs were imported into Great Britain under the Importation of Dogs Order, 1901, which was made for the purpose of stamping-out rabies. Mr. Barber contended that the defendant so long as he had control of the dogs was liable for the licenses, and the dogs were under his control for six months. No owner outside the United Kingdom could be summoned. Correspondence had passed between the defendant and the County Council, and the defendant said he was exempt from licenses, as he had charge of the dogs for the Board of Agriculture and Fisheries, but Mr. Barber contended that the Importation Order did not affect the general provision of the Act. A letter was sent from the County Council to the defendant stating that although he was

liable for payment, the Council would not enforce payment, provided he produced licenses taken out in the names of the owners of the dogs.

Supt. Littlewood gave evidence as to the number of dogs on the premises, and said no licenses had been taken out. There had been considerable correspondence over the matter, and defendant was still in correspondence with the Board of Agriculture. Some of the animals were sporting dogs, and all were isolated.

Mr. Thatcher, for the defence, urged that the word "keep" in the Act did not mean "keep in custody," but that they were kept for use, and that could not be said to apply to this case. The dogs were in the defendant's control and custody, but only as a place of detention for the Board of Agriculture.

The defendant gave evidence, in the course of which he said he was authorised to keep the dogs. There was no formal license, but an official form was issued, showing the place where the dogs could be kept. This form was issued by the Board of Agriculture, and he had been supplied with one. The dogs were isolated, being kept in separate cages, and were not taken out during the whole period they were there. His impression was that the dogs were being kept by the Government, which had power to have the dogs removed if they wished to do so. The Board provided that the dogs must be kept under control. The dogs were kept at the expense of the owners in accordance with the Order, and could be removed on any occasion when any dangerous disease, such as rabies, broke out. A most important point he wished to remark was that the Government only had power to release the dogs and no one else.

The Bench retired to consider their decision, and returned after an absence of a little over ten minutes,

when the Chairman announced that there was a considerable difference of opinion on the Bench, and they thought it advisable that a case should be taken, to have a judicial opinion as to the real meaning of the word "keep" in the section.

Mr. Barber pressed for a decision.

The Chairman said the majority of the Bench were of opinion that the defendant was clearly responsible, and they imposed a fine of 1s. and costs, allowing two guineas for the complainant's legal expenses.—*The Southern Daily Echo*.

Foot-and-Mouth Disease—The Outbreak near Bridgwater.

The existence of foot-and-mouth in the district was first detected on Thursday, September 28th, amongst a number of dairy cattle on Manor Farm, Blindman's Gate, Middlezoy, near Bridgwater, occupied by Mr. Edward Rawle. Mr. Rawle on Wednesday, September 27th, saw that his cattle were ailing, and consulted Mr. E. W. Bovett, M.R.C.V.S., of Bridgwater, who, on Thursday morning, visited the farm, and on examining the cattle formed the opinion that sixteen of the eighteen cows were suffering from foot-and-mouth disease. Supt. W. H. Williams, of the Bridgwater County Police, wired the fact of the discovery to the Board of Agriculture and Fisheries, and by Thursday night Mr. Jackson, one of the Board's veterinary surgeons, arrived in Bridgwater, and early on Friday morning confirmed Mr. Bovett's opinion. Mr. Stockman, the Board's chief veterinary inspector, arrived during Friday afternoon. He corroborated the opinion of the other veterinaries, Mr. Bovett being complimented on detecting the presence of the disease and the promptness with which he had dealt with the matter. Other officials arrived later, including Sir Edward Clarke, Assistant Permanent Secretary to the Board of Agriculture, and Mr. Smart, Mr. Wrightson, Mr. Munro, and Mr. Mitton, and a scheme of stringent precautions was decided upon. On Saturday Taunton market was closed, and the markets at Bridgwater, Highbridge, Langport, Williton, and Yeovil are similarly affected.

Entrance to the field in which the work of slaughter and cremation was proceeding was strictly forbidden. A police officer was stationed at the gate entrance to the field night and day, and only those officially sanctioned were permitted to enter. Those engaged in the work observed most rigid precautions. To prevent the possibility of carrying the infection to other fields and places no one was allowed to pass out of the field in question without rinsing their hands in disinfectants and dipping their boots in carbolic. The wheels of carts and the hoofs of horses were disinfected, whilst even the roads in the vicinity were disinfected and limed. It is nearly forty years ago that an outbreak of the disease occurred in the Bridgwater district. Old farmers recall that in their early days the disease often ravaged whole herds of cattle in the country, causing enormous loss to agriculturists, but so severe are the precautions taken to-day that the outbreak is usually restricted to a limited area.

The district declared is a very large one, comprising the Bridgwater, Wells, Somerton, Yeovil, Crewkerne, Ilminster, Taunton, and Bishop's Lydeard Petty Sessional Divisions (with some slight exceptions), also parts of the Petty Sessional Divisions of Axbridge, Shepton Mallett, Wincanton, and Wellington, together with all the boroughs in the county, with the exception of Bath.

Speaking at a Liberal meeting at Yeovil on Saturday, Sir Edward Strachey appealed to agriculturists in the infected area and in the county generally to support the Board of Agriculture in the stringent measures they were taking to stamp out the terrible disease. He should

be glad to be able to say, both as the Parliamentary Secretary to the Board of Agriculture and as a Somerset man, that the men of Somerset were loyal to the Board in that matter. (Cheers.)

The following cattle have been destroyed:—On Mr. Rawle's farm—Cattle, 77; pigs, 29. On Mr. Sharman's farm—Cattle, 12; pigs, 2. Total, 120.

In all since October 3rd there have been seven fresh cases detected, and in each instance the Board of Agriculture officials have taken prompt steps. The infected animals, and those which had been in immediate contact with them, have been slaughtered, and their carcasses cremated in specially provided pits in the fields in which the stock were killed. The farmers in the district are viewing the situation with a fair amount of optimism, and are loyally obeying the restrictions which the Board of Agriculture have deemed wise to impose. The Board has a staff of nearly twenty inspectors on the scene, and that such a number is essential those familiar with the thorough manner in which the Board have dealt with the outbreaks are convinced. For instance, the officials, after great labour and patience, have traced practically the whole of the sheep and cattle which were sold at the recent St. Matthew's Fair, and have inspected the animals with a view to ascertaining whether any have developed the disease, the origin of which is developed in complete mystery. The inspectors have also made every endeavour to discover how the disease found its way amongst Mr. Rawle's stock, but up to the present no clues of a reliable nature have been disclosed.

Entrance to the fields in which the disease has been detected amongst stock is rigidly forbidden, and police are on duty day and night, and for the convenience and comfort of the officers temporary huts have been erected, and small stoves provided. The inspectors are clothed in overalls, and they and the slaughterers and labourers engaged in keeping the pit fires alight rinse hands and boots in carbolic before leaving, whilst the wheels of carts on which the dead stock have been conveyed to the pits for cremation are also washed in the same disinfectant. Straw is strewn in large quantities at the entrance to each of the infected fields, and hourly this is well sprinkled with Jeyes' disinfectant. Those in the locality are loud in praise of the splendid efforts which the Board's inspectors are making to stamp out one of the worst diseases that troubles the agricultural community. Almost hourly reports of suspected cases arrive at headquarters, and inspectors are despatched by motor to investigate the case. So thoroughly alarmed have many of the farmers become that the least ailment amongst stock is construed into the existence of foot-and-mouth disease, and on several occasions rumours have been in circulation that cattle are infected, when thorough examination has revealed merely the existence of a complaint common to stock.

Owing to the prolonged drought and the consequent shortage of grass in many parts of the county, farmers in the late summer were everywhere seeking keep for their stock. The moors in the Sedgemoor district being lowly situated had retained their verdancy to a remarkable degree, and to its green pastures agriculturists from a long distance away had driven their herds while their own fields recovered from the effects of the scorching sun. The consequence is that the rich moors around Middlezoy, Westonzoyle, and Othry are stocked with cattle to an extent unknown for many years, and it is, unfortunately, in the heart of this vast feeding ground that the disease has broken out. Up to the present the cases that have occurred have been in a well-defined belt of country, and in all, save one instance, the infection has been traced to contact with the originally diseased cattle. The exception was the outbreak which was reported on Friday in a field situate be-

tween Othery and Aller, a distance of nearly two miles from the original outbreak. Here eight dairy cattle were found to be suffering from the disease. These animals had not been in contact with any of the originally diseased stock. The outbreak is said to be the most virulent with which the Board have had to deal for thirty years.

The veterinary inspectors of the Board of Agriculture have paid visits of inspection to those farms visited by Mr. Bovett, on Sept. 28th, with negative results: after visiting the farm he at once returned home and thoroughly disinfected himself, his ropes, dog cart, and horse's feet before visiting other cattle.—*The Bridgwater Mercury*.

The Board of Agriculture and Fisheries has issued the following:—

No outbreak of the disease has up to the present been discovered on premises outside the two adjoining parishes of Middlezoy and Othery, near Bridgwater, but within the former parish the existence of the disease has now been confirmed amongst the stock of nine different owners, whilst one outbreak has been detected in the parish of Othery in marshes which adjoin those in the neighbouring parish in which the disease has appeared.

The outbreaks, ten in all, have occurred amongst cattle pastured in the marshes within a radius of about a mile of the village of Middlezoy, and the later outbreaks are believed to be connected directly or indirectly with the original outbreak which occurred at Manor Farm on the 29th ult.

All the cattle and sheep pastured in the fields in which the disease has appeared have been slaughtered by order of the Board, and in certain cases cattle in the adjoining pastures have also been slaughtered with a view to prevent the further spread of the disease.

Animals in the vicinity are kept under daily observation by the veterinary inspectors of the Board with a view to the early detection of any further cases of the disease.

In view of the fact that the disease has been confined to a comparatively restricted area, an Order has been made which comes into force on October 12th modifying substantially the restrictions in force in the scheduled district as regards those parts of it more remote from the outbreaks.—*The Times*.

Cruelty Charge at Eastbourne.

At the Eastbourne Borough Bench on Monday, Oct. 9th, before Mr. A. Mayhew (in the chair), and other Magistrates, Frederick Feast, of Kilburn Terrace, was summoned for cruelty to a horse on the 16th September, and Frederick J. Tompsett, of Dudley Terrace, for aiding and abetting.

Mr. F. W. Morgan appeared on behalf of Feast.

P.C. Copping stated that he saw Feast driving a grey horse attached to a landau. The horse was going very lame and he stopped it. Witness said to Feast: "Are you aware it was stopped on 14th inst., and certified unfit for work?" The reply was "Yes." Feast refused to take the animal out of the shafts, and witness and another constable had to do this. The horse was only fit for the kennels, for it had no power in its fore legs and knocked its fetlocks together. On the following morning witness went to the stables and saw Tompsett, who said, "The horse has nothing to do with me. I sold it to Feast on Friday."

P.S. North also described the condition of the animal, which he thought was aged and in poor condition.

P.C. Reader Grey gave similar evidence, adding that he saw Tompsett on 16th September, and was told, "It has not been worked with my knowledge."

Inspector Bennett, R.S.P.C.A., deposed that upon examining the animal on 17th September he found that

it had no muscular control at all over its fore legs. Tompsett told him: "I sold the horse to Feast on Friday night, and he can do what he likes for it. I have got a receipt for it." Feast admitted to him that the horse was lame, adding, "What am I to do; I've got to get a living." Tompsett said that he still let the horse stop in his stable and looked after it. He also lent Feast the landau. Feast told witness that he gave Tompsett £12 for the animal, but in the Inspector's opinion it was not worth a quarter of that amount.

Evidence was also given by David Arnold, blacksmith, of Longstone Road, and John William Bannister, blacksmith, of Leslie Street. The latter said that Tompsett paid him for shoeing the horse.

DEFENCE.

Feast, on oath, said he was "born with horses" and had had experience of them all his life. Regarding the horse in question, he said he bought the animal from Tompsett on September 15th on the advice of Mr. Wallis, veterinary surgeon, who valued it at between £12 and £15. It was not lame, and was quite fit for work with the exception of a corn.

By the Chairman: He had been in Tompsett's employ about a year. He borrowed the money from Tompsett to pay for the shoeing.

Mr. J. E. Wallis, veterinary surgeon, of Hailsham, deposed that he examined the horse on 15th September, and was told that it "ought to be shot" according to the police. But he only found a corn on each foot. He told defendants how to have it shod so as to make it go sound. Witness totally disagreed with the evidence of the inspector and police officers, and could not understand why the horse was stopped a second time. The only trouble was "corns due to bad shoeing." Witness again saw the horse on 18th September, and it was still going sound.

Mr. P. Perkins, veterinary surgeon, of Hastings, stated that he had examined the horse that morning. It was not lame nor in poor condition, and it was quite fit for work. There could not have been any wasting of the muscles of the legs.

By the Chairman: Witness would accept the opinion of a policeman as to the lameness of the horse in one leg, but not as to both fore legs.

The Bench inspected the horse, and then found the cases proved.

There was a further summons against Tompsett for cruelty to the horse on 14th September.

The evidence was to the effect that defendant was driving the horse attached to a landau, and it was in the condition that had been described. Tompsett told P.C. Copping that the horse had "knocked himself."

Tompsett was given an excellent character covering a period of 24 years, and Inspector Bennett told the Bench that he was "led away by the smoothing tongue of the man Feast."

Feast: Hear, hear!

The Bench fined Feast 15s. inclusive, and Tompsett 10s. and 5s. inclusive.—*Sussex Daily News*.

Case of Identity

A case relating to the ownership of a foal and presenting unusual features has just been heard at Bangor County Court. The plaintiff, William Pritchard, a cattle dealer, and the defendant, Hugh Roberts, both had pony mares which grazed on the mountain and were due to foal about the same time. When their owners visited the mountain to ascertain the condition of the ponies they found that both had foaled. Both mares were suckling one foal, and a dead foal was found in a river close by. A question arose as to the ownership of the foal, and the plaintiff sued the defendant for the value of the foal, £3 10s., with £1 by way of damages.

It was suggested by the plaintiff that the foal should remain with the two mares for some months, by which time it would be able to recognise its true mother; if it did not it should then be sold and the money divided, but the defendant declined. The defendant also declined to allow two independent men to decide the ownership. The plaintiff said that the defendant removed the mare and foal from the mountain to a farm, and when the plaintiff took his mare near the farm the animal neighed and the foal came up to the gate and tried to suck it, while the defendant's mare did not stir from the bottom of the field. The defendant said he pulled the dead foal out of the river and plaintiff's mare went up to it and licked it, whilst his own mare took no notice of it. The Judge thought the defendant had acted unwisely, especially in view of the dispute pending, in taking the foal from the mountain. He awarded the plaintiff £3 10s. the value of the foal, with 10s. damages.—*The Times*.

"The Senses" in Surgery.

The art and craft of surgery in some respects has not progressed during the last century as markedly as the science of surgery; for we find, for example, few novelties and still fewer improvements in the manipulative surgery of the face and extremities.

Human knowledge has its limits, and unless we can prove that man's brains grow larger as the world around him becomes more highly developed, our advance now simply means that we rely more on extraneous aid than in the greater perfecting of men's individual powers. Conversely, it is quite possible that mere mechanical development may have the opposite effect, and the brains shrink as they become less necessary.

In the practice of the art of surgery, as well as in that of medicine, I have often been struck by the clear diagnosis which those who possess a good ear for music often make where others have failed for want of it. Others having mechanical gifts will improvise an apparatus, while another man is wondering how soon he will be able to get an appliance from an instrument maker. In the matter of drawing, again, one who has a good eye for it will usually make a neater, if not a better, operator than the man who has not; his lines will be more accurate, and the ends of his incisions will meet at the proper point, and his whole work will be more perfect. So, again, with the sense of touch; this requires a long education, but some never seem to acquire any delicacy of touch—their fingers are "all thumbs," and often they will endeavour to discover by force what can only be made out by the utmost gentleness in manipulation. For example, a movable kidney or other easily displaced tumour can often be made out only by a "surprise touch," and escapes at once from observation with any rough handling. A keen sense of touch is invaluable to the surgeon; a gynaecologist especially is very much dependent upon it for success.—[From an address by W. D. Spanton, F.R.S.E.] *B. M. J.*

The Transmission of Cretinism.

Dr. Lemierre, in the *Gazette des Hôpitaux*, reports the conclusions arrived at from the studies of Von Aichbergen on the transmission of cretinism from man to animals. This author has for many years made a study of cretinism in Styria, and is convinced that the affection must be ranked among the infectious diseases. He had the opportunity of observing two dogs brought up by a female "demicretin," who made them sleep in her own bed. In course of time the dogs developed cretinous characteristics. Badly developed, they presented voluminous goitres, their coats were dull, dry, and lanuginous, and they retained their milk teeth. They were unable to bark and appeared devoid of all

intelligence. The author next entrusted this woman with a young dog obtained from an absolutely healthy litter, without hereditary pathological taint. The young animal took up the same style of living as the two others removed from the house. Three months later it also had a goitre, but was still lively and able to bark. Ten months later the goitre had become enormous, the animal was apathetic and incapable of barking. Its coat had lost its gloss, and its milk teeth remained. In short, it presented the appearance of a cretin. On the other hand, a dog of larger breed entrusted to the woman and brought up in the same room as its companion, but without sleeping in the same bed, developed on normal lines. The author thinks that these facts demonstrate that the transmission of cretinism from man to animals is possible.—*The Hospital*.

The Vitality of Ascaris Ova.

Dr. R. S. Morris, writes on this subject in the *Johns Hopkins Hospital Bulletin*. In the clinical laboratory of that hospital are preserved jars containing a thin suspension of faecal material and parasitic ova. The dilution with formalin and water is so arranged that there is present 2 per cent. of the antiseptic. This strength was believed to be lethal to the ova of every parasite affecting human beings, and Dr. Morris's experience shows that this is true of all except *Ascaris lumbricoides*. In January, 1909, when demonstrating from one of these jars, he was astonished to find that many of the eggs contained actively motile embryos. How long the specimen had been on the laboratory shelf is unknown, but the embryos were still motile in May of this year—that is, twenty-nine months after they were first noticed to be alive. In December, 1909, the author had an opportunity to test the accuracy of his observation, as a patient was admitted whose faeces swarmed with the ova of *Ascaris*. A specimen was put up in 2 per cent. formalin, securely sealed in a jar of brown glass, and left on the laboratory shelf. Twice in 1910 search was made for motile embryos without result, but in January, 1911, a few were found, and in May another examination showed an apparent increase of the number.

Personal.

Mr. WILLIAM SHIPLEY, F.R.C.V.S., of Yarmouth, who has succeeded Mr. W. Freeman Barrett as Hon. Secretary of the Victoria Veterinary Benevolent Fund, has been successful in aiding this excellent institution by means which might with advantage to the Fund be emulated in other places. Mr. Shipley arranged a bowling tournament in which he interested a number of his friends, one of whom, Mr. D. E. Aldred, kindly presented a silver cup for competition. Twenty-six players took part on Thursday, Sept. 28, and the result of the tourney was that Mr. Ernest B. Blake, J.P., won the cup. The players were entertained to tea by Mr. and Mrs. Shipley. From the sale of the tickets, and subscriptions obtained through the tournament, the sum of £8 7s. 6d. was put to the credit of the Victoria Veterinary Benevolent Fund.

OBITUARY.

ROBERT LEES, M.R.C.V.S., Lagg, Ayr.

Graduated, 1862, Edin: 1880.

Mr. Lees died on Thursday, 28th ult. Aged 68 years.

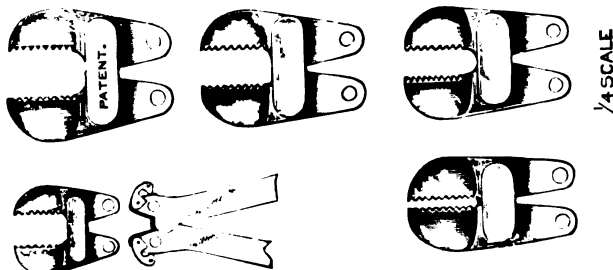
EDWARD BAILEY, M.R.C.V.S., Leicester, Vet.-Maj. Leicestershire Yeomanry Cavalry. Lond: April, 1859.

Death occurred on Oct. 5th, from bronchitis, at the age of 73 years.

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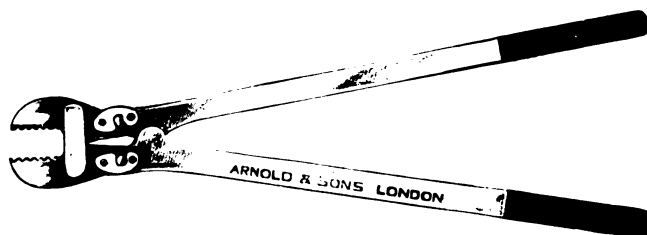
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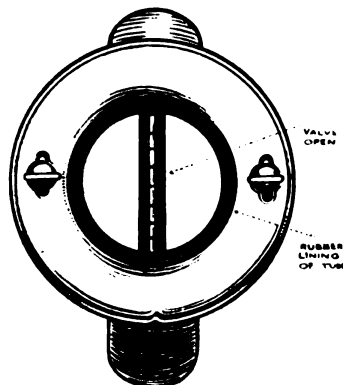
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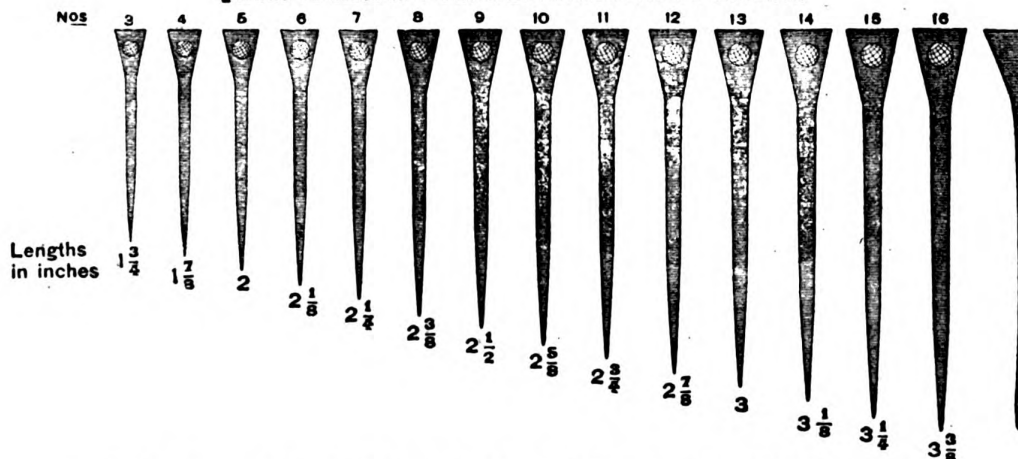


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OCTOBER 21, 1911.

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Scottish Metropolitan V.M.S.

A MEETING will be held in the Royal (Dick) Veterinary College, on Wednesday, Oct. 25th, at 3 p.m. Jas. Peddie, Esq., president, will occupy the chair. Routine business. Mr. J. Cameron, senr., Berwick-on-Tweed will open a discussion on "Erysipelas."

A. GORTON, Hon. Sec.

Yorkshire V.M.S.

A MEETING will be held at the Hotel Metropole, Leeds, on Friday, Oct. 27th, at 4 p.m. The president, Mr. J. W. Lazenby, Tadcaster, in the chair. Business. Routine: Treasurer's balance sheet: Election of officers and council: Mr. E. H. Pratt, Darlington, will introduce the subject of "Abortion in Cattle."

J. CLARKSON, Hon. Sec.

Western Counties V.M.A.

A MEETING will be held at the Duke of Cornwall Hotel, Plymouth, on Saturday, October 28th. The President, Mr. H. E. Whitmore, Langport, will take the chair at 1 p.m. At 2 p.m., Prof. F. T. Hobday will give a demonstration upon "Dr. Williams' Operation for Roaring," at Mr. P. G. Bond's Yard in Union Street. Agenda. Routine: WILLIAM ASCOTT, Bideford. Hon. Sec.

Liverpool University V.M.S.

A GENERAL MEETING will be held at the University, on Tuesday, Nov. 7th, in the Veterinary Anatomy Department, at 3.30. Business. Routine: Discussion of the Presidential Address (See Vet. Record July 8th), opened by Mr. J. P. Heyes: Pathological specimens. H. E. ANNETT, ARNOLD RICHARDSON, Hon. Secs

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THE COUNCIL MEETING.

The recent Council meeting was a quiet one. For the most part its proceedings consisted of routine business, and present few features of interest.

Foremost, of course, come the financial difficulties. As is now usual, the Treasurer made a short speech summarising the position, probably for the benefit of members outside the Council Chamber. At the July Council meeting that speech was full of gloomy predictions, which are now justified by the statement at last week's assembly. Consols have been sold—£1,000 worth—but the bulk of the proceeds of the sale has gone to repay the bankers' overdraft, leaving only some £370 now in hand. The ensuing quarter's bills are expected to absorb nearly half of this small amount, and in all probability, therefore, the Treasurer will have to ask at next January's meeting for authority to sell another £1,000 worth of Consols. This second sale will carry us on a little longer than the one just concluded, for there is now no banker's overdraft to pay off, but its proceeds cannot last for very long. And this is the direction in which the College finances must inevitably move, until the passage of the pending Bill.

Very little is to be recorded as to the progress of the Bill. Further correspondence has taken place with the Highland and Agricultural Society, whose objection to the measure seems now to have narrowed down to one point; and the Bill itself, which was crowded out in the last Parliamentary Session, is to be re-introduced in the next one. Last Session was so congested that this one cannot be expected to be a normal one; and the Bill will require some luck at the ballot to ensure it against a repetition of its former fate.

Very little need be said of the remainder of the business. The examination Committee has been instructed to revise the syllabus for the professional examinations, with power to consult with the teachers and examiners in doing so; and notice has been given of a series of alterations in the bye-laws relating to examinations. Both these matters can be better considered later. Finally, we note one brief item in the report, which is very important and altogether welcome. The Council has approved the Draft Ordinance of Edinburgh University for degrees in veterinary science. Edinburgh University proposed to institute such degrees several years ago, on lines unacceptable to the R.C.V.S., and the scheme fell through. It has now been revived in an amended form; and the Council's resolution marked one step forward towards the establishment of Veterinary University Degrees in Scotland—a thing which we shall all be glad to see.

THE RÖNTGEN RAYS IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.

Prof. Levy, of Dorn, publishes (*Berliner Klin. Wochenschr.*) an account of a series of observations upon patients, in which the Röntgen rays were used in combination with ordinary clinical methods for the diagnosis of pulmonary tuberculosis. Thirty-two patients in all, selected indiscriminately, came under observation. The object of the investigation was to ascertain whether, by the help of the Röntgen rays, the diagnosis could be made earlier and more completely than by clinical methods alone. The results showed that the Röntgen rays are of great value in the early diagnosis of pulmonary tuberculosis, and that only in a few cases did they fail to expedite the diagnosis.—(*Berliner Tier. Woch.*)

DUMB RABIES IN CATTLE.

Max Hecksch, of Gyula, report (*Allatorvosi Lapok*) an outbreak of this disease, which killed eleven cows of a valuable herd within two weeks. The symptoms were as follows:—

The animals stood with their limbs straddled apart, and leaned their heads or necks upon the bars of the stall. They executed masticatory movements when no food was in their mouths, salivating copiously meanwhile. The temperature was from 103.1 to 103.4 F.; the pulse was weak, and about 56 to the minute. Peristalsis was sluggish. The pupils were widely dilated. Reflex irritability was heightened.

Microscopical examination of the blood gave negative results. Post-mortem examination of the animals which died only revealed hyperæmia of the brain and its membranes. Infectious cerebro-meningitis was suspected, though no stiffness of the neck was to be seen. The possibility of vegetable poisoning was also considered, but this was negated by the fact that the whole of the animals received the same food, and no cases of illness appeared amongst the bullocks.

The treatment adopted was—injections of pilocarpine (in doses of 0.3 grammes, or about $4\frac{1}{2}$ grs.), cold applications to the head, and artificial nourishment.

Prof. Marek, who was called in in consultation, expressed a suspicion of dumb rabies, and it then transpired that a stray dog, about two months previously, had bitten a dog upon the farm, which had soon afterwards been shot. Experimental inoculations with material from the central nervous system from the cows confirmed the diagnosis.—(*Berliner Tier. Woch.*)

A FLAGELLATED ORGANISM ENCOUNTERED IN A VULVO-VAGINAL PUSTULO-ULCEROUS ERUPTION IN A BUFFALO.

Prof. Poenaru has recently observed, at Bucharest, a buffalo affected with a pustulo-ulcerous inflammation which spread from the vagina to the urethra and the bladder, causing violent tenesmus and a muco-purulent discharge.

Microscopical examination of the vaginal discharge and of scrapings from the ulcers revealed the presence, in the midst of a multitude of microbes, of very numerous examples of a special organism taking all the colouring agents and Giemsa's stain in particular.

This organism had the appearance of a spermatozoon, with an ovoid body from 6 to 8 micro-millimetres long, and a flagellum of from 30 to 55 micro-millimetres. The protoplasm of the body showed but little differentiation, and was covered by a cuticle.

The organism was slow in its movements; and, together with its associated microbes, lived for a long time in pure water and in sugared bouillon, especially at the bottom of the glasses in which the scrapings from the ulcers had been collected. Poenaru did not succeed, however, in either inoculating it or cultivating it.

Repeated examinations of hanging drop preparations made for a period of some days did not reveal the least multiplication of the organism.

At the end of three months, the flagellum fell away. The body of the organism still remained visible in the bouillon for some time, and then in its turn became disintegrated.

This organism evidently represents a flagellate, and seems somewhat similar to the one which Grimm, in 1894, discovered in the pus of pulmonary and hepatic abscesses in a Japanese peasant woman, and which R. Blanchard designated *Monaspyophila*, although it does not possess the small flagellum of *Monas*.

Perhaps the above described organism played a part in the development of the pustules and ulcers of the buffalo's vulva and vagina. Poenaru, however, made several attempts to infect rabbits by inoculating them in the vagina with scrapings from the ulcers, and also with the vaginal discharge; and in every case he failed to transmit the disease, the flagellates only living a few days in the vaginas of the rabbits.—(*Arhiva Veterinara*).

CHOLESTEATOMA IN A HORSE'S BRAIN.

Wester records (*Tydschrift voor Vecartsenijkunde*) a case of an old tram horse which, during his period of work upon the tramway, had never shown symptoms of illness. He was bought by a wood merchant, and at first did his work perfectly. Before long, however, he became subject to attacks of cerebral symptoms, which on several occasions necessitated professional aid.

During one of these attacks, the horse was brought to Wester. He was then greatly depressed, the head was carried low, the eyes were fixed, and progression was slightly unsteady. The pulse was

weak, but of normal frequency. The author bled the horse, taking 8 litres (about 14 pints) of blood, and advised cold douches. At the end of two days, the animal appeared recovered and resumed work.

Five months later Wester again bled the animal, the symptoms of depression having reappeared. He then learned that, in the interesting period, the horse had shown nervous symptoms at different times and that even crises of excitement had been manifested. Another veterinary surgeon, who had been consulted, had advised working the animal hard with only a moderate diet.

A few days later the horse, after having been very excited, became colicked, and slaughter was decided upon.

Post-mortem, Wester found that the occipital portion of the two cerebral hemispheres was voluminous and infiltrated; it was also transparent and gelatinous in aspect, but these two latter characteristics disappeared soon after the escape of the cerebro-spinal fluid. The two ventricles, however, remained voluminous; and were found to be distended by a bilobed tumour of a yellowish-grey colour, showing glistening points here and there, and weighing 118 grammes. Microscopical and chemical examination proved this growth to be a cholesteatoma.

The tumour was immersed in a large quantity of encephalo-rachidian fluid, which was viscous and dark in colour. The cerebral ventricles, especially the left one, had become considerably distended under the influence of the constant pressure. On that side, the cerebral material had been diminished to such a degree that the hemisphere had become transparent behind the olfactory lobes. No hæmorrhage was perceptible to the naked eye.

It is rather peculiar, the author remarks, that despite the presence of a neoplasm of such importance and the constant pressure produced by it, the symptoms of disease only appeared periodically. The author's idea is that this may be attributed to a periodic obstruction of the aqueduct of Sylvius, giving rise to a temporary accumulation of fluid in the ventricles.—(*Annales de Méd Vét.*) W. R. C.

Royal College of Veterinary Surgeons.

A quarterly meeting of Council was held at the Royal College of Veterinary Surgeons, 10, Red Lion Square, on Friday, October 13th, 1911, Prof. A. E. Mettam (President) in the Chair. The following members were present: Colonel Sir Francis Duck, K.C.B., Professors Bradley, McCall, Sir John M'Fadyean, and Shave, Messrs. Abson, Banham, Carter, Dunstan, Garnett, Hobday, Lawson, Mason, McKinna, Mulvey, Roberts, Shipley, Slocock, Trigger, and Villar; Mr. G. Thatcher (solicitor), and Mr. F. Bullock (secretary).

Apologies for Absence.

The SECRETARY announced that apologies for non-attendance had been received from Mr. Rutherford, Major-General Thomson, Mr. Wharum, Prof. Dewar, Mr. Freeman Barrett (who, through illness, had gone for a sea voyage), Mr. Sumner, and Mr. Lloyd.

MINUTES.

On the motion of Mr. Lawson, seconded by Mr. Abson, the minutes of the last meeting were taken as read and confirmed.

OBITUARY.

The SECRETARY read the obituary list.

Mr. CARTER: Perhaps I may be permitted at this juncture to propose that this Council send to the widow of the late Prof. W. Owen Williams a letter of condolence expressing the great sympathy we feel with her in her loss. I claim this privilege from the fact that perhaps I was longer acquainted with Prof. Owen Williams than any man round this Council table, indeed I may say perhaps longer than any member in the profession. I go back to the time when Prof. Williams' father was practising in Bradford, and when Owen Williams and myself were boys together. From that time up to the date of his death there was one continuous friendship between Prof. Owen Williams and myself. He was a gentleman who I am sure will be greatly missed—a gentleman undoubtedly of many talents, and a distinguished and a shining light in the profession. The whole of the time I knew Prof. Owen Williams, from his earliest boyhood, I always found him a gentleman—a cultured gentleman. He contributed from time to time to veterinary literature; and he had a quiet, dignified manner which I am sure it would be well for many to emulate. I move that a letter of condolence from this Council be sent to his widow and family.

Mr. ABSON: I should like to second the proposition so ably moved by Mr. Carter. I knew the late Prof. W. O. Williams for a goodly number of years, he being an old College friend of mine. It affords me a melancholy pleasure to second the resolution.

The PRESIDENT: Gentlemen, you have heard the remarks that have fallen from Mr. Carter and Mr. Abson, and I am sure the Council wishes to associate itself with the expressions of sympathy with the widow and family on the decease of Prof. Owen Williams. I shall not put the motion to the vote because I take it that everyone feels they have made a personal loss through the death of Prof. Williams, but I ask the Council to pass the resolution unanimously, upstanding.

The resolution was carried in silence, all the members upstanding.

Mr. ROBERTS: I should like to move that we send a vote of condolence to the widow of the late Mr. Cunningham. I knew the late Mr. Cunningham from my student days, and he was a very excellent man. He was a public spirited man so far as the profession was concerned and one who, by his kindness, sayings, and his deeds was for a great many years a man that a great many of the veterinary surgeons of the North have looked up to with admiration. I think we ought not to let this sad occasion pass without passing a resolution similar to the one we have passed with regard to the late Prof. Williams. With great sadness I propose that we do this. Mr. Cunningham was for a good many years associated with the Council as an examiner.

Prof. BRADLEY: I should very much like to be permitted to second the vote of condolence. The late Mr. Cunningham was extremely well known in Scotland, and his loss is very keenly felt.

The PRESIDENT: I am sure we all feel the loss that Mrs. Cunningham and the family have sustained in the death of Mr. Cunningham, whom I knew personally for a great number of years when I was in Scotland. The interests of the profession were always in Mr. Cunningham's heart, and he did everything in his power to further them. I am sure that the members of the Council would wish to send a vote of condolence to Mrs. Cunningham and the family on the loss they have sustained.

The vote of condolence was carried in silence, all the members upstanding.

ADMISSION TO MEMBERSHIP.

The SECRETARY announced that the following gentlemen had been admitted as members of the College since the last meeting:—

London College.—Messrs. Robert Bowes Cockburn, Thomas James Davis, James Thos. Edwards, George Verney Golding, Jas. Arthur Grounseil Gosling, Henry Epton Hornby, Frank Fielding Horton, Francis Colin Minett, Wm. Arthur Pool, Stanley Cecil Rowbotham, Gordon Frank Steevenson, and Wm. Poole Stokes.

Liverpool College.—Messrs. Thomas Craig, Geo. Guest Howard, Stuart Kirkby Jones, Peter McGregor, Fredk. James Richmond.

Dublin College.—Messrs. Herbert Wilson Carbury, John Martin Crowe, Michael Cunningham, Peter Francis Dolan, Thomas Michael Doyle, Patrick Desmond English, Patrick Joseph McCormack, Thomas Francis O'Brien, Michael John Reidy, Thos. le Blanc Revington, John Smith, and Nasli Dinshaw Vakil.

CORRESPONDENCE.

The SECRETARY read a letter he had received from the General Secretary of the Committee organising the 7th International Congress on Tuberculosis at Rome, which should have met in September, informing the Council that the Congress would be postponed until the middle of April, 1912, largely due to the fact that many of the Foreign Committee had found the month of September unsuitable. The Committee hoped that, in spite of the postponement, the College would retain the adhesion to the Congress it had already sent in.

PRESENTATIONS TO THE LIBRARY.

The SECRETARY announced that the following presentations to the Library had been made since the last meeting:—By Major F. S. H. Baldrey, F.R.C.V.S., D.P.H.: The Benefits of Sheep Dipping; A Preliminary Note on neutral red reaction in the infected red cells of Protozoal Diseases; Haemorrhagic Septicæmia of Cattle, and its relation to preventive vaccination; Aggressins in Barbone and their application as an immunizing agent; the preparation of anti-rinderpest serum by means other than the injection of virulent blood; Preventive Vaccination against Strangles; Milk Supply; Veterinary Science; Trypanosoma Lewisi in der Rattenlaus Hæmatopinus spinulosus. Dourine of Horses: Its cause and suppression, by John R. Möhler, v.m.d.; Anthrax, with special reference to the production of immunity, by Chas. F. Dawson, M.D., D.V.S.; Annual Reports of Proceedings under the Diseases of Animals Acts, the Market and Fairs (Weighing of Cattle), etc., etc., for the year 1910; Statistical and General Report of the Army Veterinary Service for 1910; Calendar of the Royal College of Surgeons, 1911; Report of Council of National Association for the Prevention of Consumption, 1911; Report of the Veterinary Surgeon to the Corporation of the City of Glasgow (Police Dept.) for 1910; Programme et Règlement de l'Exposition Internationale Temporaire de l'Industrie du Lait, October, 1911; Year Book of the Society of Tropical Medicine and Hygiene, 1911-12; The Progress in the Tuberculosis Campaign in Pennsylvania up to 1911; Resolution on the Annual Reports of the Bengal Veterinary College, 1910-11; The Rhodesian Agricultural Journal, June and August, 1911; The Journal of the Board of Agriculture, July, August and September, 1911; Supplement to The Journal of the Board of Agriculture, July, 1911; Leaflets of the Board of Agriculture and Fisheries; The Journal of Meat and Milk Hygiene, July, August and September, 1911; Bulletins of the Sleeping Sickness Bureau, July, August, and October, 1911; Bulletin of the Yellow Fever Bureau, June, July, August, and

September, 1911; *Revue de Pathologie Comparée*, June, July, August, and September, 1911; *The Journal of Comparative Pathology and Therapeutics*, June and September, 1911; *The Journal of Tropical Veterinary Science*, Vol. VI., No. 3; *The Veterinary Journal*, *The Veterinary News*, and *The Veterinary Record* for the quarter; Bound copy of *The Veterinary Record*, Vol. 23.

On the motion of Mr. Mulvey, seconded by Prof. McCall, a hearty vote of thanks was accorded to the respective donors.

FINANCE COMMITTEE.

Mr. MASON read the following report of a meeting of the Finance Committee held on Oct. 13th, 1911:

Appointment of Chairman. It was resolved that Mr. A. W. Mason be appointed Chairman of this Committee for the ensuing year.

Minutes. The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Financial Statement. The Treasurer submitted his financial statement for the quarter.

And it was resolved: (a) That the Financial statement be approved and that the Treasurer be authorised to pay the liabilities, together with cheque for monthly salaries, petty cash, fidelity insurance, Fellowship examination expenses, and electric light required during the ensuing quarter.

(b) That the account of £1 1s. 6d. for repairs to fan be referred to Treasurer, and that he be authorised to pay the account if a satisfactory explanation of the expense is received.

Trust Funds. It was resolved that the President be authorised to sign the request to the official trustees of charitable funds for the remittance of dividends received in connection with the Steel Memorial, Walley Memorial, and Jubilee Memorial Funds.

Mr. MASON: I beg to move that the report be received and adopted.

Prof. MCCALL: I second that.

Mr. TRIGGER: Before the report is adopted I think the statement in the report that "The Treasurer be authorised to pay the account if a satisfactory explanation of the expense with regard to the repairs of the fan is received" is not quite what was intended. What the Committee decided was that a satisfactory job should be made of the work. I do not think any explanation would be satisfactory that did not put the fan in order. The fan is an absolute failure and out of order, and the decision of the Council was not to pay the bill until it was made good. An explanation is not what we want. The wording of the report should have been "Until the work is satisfactorily performed."

Mr. MULVEY: As I understand the instruction it was that, until the fan was put into satisfactory working condition, the account was not to be paid.

Mr. TRIGGER: That is so. It is only a verbal alteration of the report.

Mr. MULVEY: With regard to the financial statement, I do not know that there is anything very particular that I need call your attention to, except you will notice that our income is still on the down grade, and that year by year our income from examinations becomes less. Then, again, you will notice that since our last meeting Consols have been sold, and we have been able to pay off the bank the amount they advanced, leaving us with a balance in hand after the accounts are paid to-day of some £370. But in addition to that we have to meet the demands for the next quarter's accounts, which will come to, say, about £160, so that we shall be in the position before Christmass next of having about £200 left out of our £1000 worth of Consols which we have just sold. I tell you this because I want you to be prepared for the announcement that in

the early part of next year the probabilities are I shall have to ask to sell out further Consols, unless by some miraculous means you are enabled to find funds to carry on the business of this Council.

Mr. MASON: With the verbal suggestion, I beg to move the adoption of the report.

Prof. MCCALL: I beg to second that.

The PRESIDENT: The alterations consists in an addendum—"That the account of £1 1s. 6d. for repairs to fan be referred to the Treasurer, and that he be authorised to pay the account if a satisfactory explanation of the expense is received, and when the fan is put into working order."

The resolution was then put and carried unanimously.

REGISTRATION COMMITTEE.

The SECRETARY read the report of a meeting of the Registration Committee held on Thursday, Oct. 12, 1911, which stated that the President was elected Chairman of the Committee.

Correspondence. Circulars issued by the County Live Stock Insurance Association, Ltd., to Veterinary Surgeons, offering free use of printed labels and notepaper, were considered, and it was resolved "That in the opinion of this Committee the use of such labels and notepaper by Veterinary Surgeons is to be deprecated as being in bad taste."

It was announced that a letter had been received from the Colonial Office enclosing an Ordinance to make provision for veterinary surgeons in St. Vincent, and it was resolved to recommend that the matter be referred to the Melbourne University Degree Committee.

A letter was received from the Department of Agriculture for Ireland enclosing a mallein test chart signed by Mr. G. C. Hill as a Member of the College. It was resolved that the Solicitor be instructed to prosecute.

Various other letters were considered by the Committee, and the Secretary or Solicitor instructed with regard to the actions to be taken in regard to them.

Eighteen cases were considered by the Committee, in some of which it was reported that undertakings had been received, and in others of which it was decided that no action should be taken. The Solicitor was instructed to prosecute in certain cases if proper evidence was obtainable, and in one case it was resolved that a Member should be called upon to appear at the next meeting of the Committee to show cause why his name should not be removed from the Register.

Restorations. (a) An application was received from Mr. A. J. Blake for the restoration of his name to Register, it having been removed under Section 5, Sub-section (4) of the Act, and it was resolved that the name of Mr. Arthur John Blake be restored to the Register of Veterinary Surgeons.

(b) A letter was read from Mr. Albert Hassall whose name has been removed from the Register under Section 5, Sub-section (4), and it was resolved that under the special circumstances the name be restored to the Register without payment of a fee.

On the motion of Mr. Garnett, seconded by Mr. Roberts, the report was adopted; and on the motion of Mr. Mulvey, seconded by Mr. Roberts, authority was given for the Seal of the College to be affixed to the various orders for prosecution mentioned in the report.

EXAMINATION COMMITTEE.

Mr. VILLAR read the following report of a meeting of the Examination Committee held on Thursday, Oct. 12, 1911:

Appointment of Chairman. It was resolved that Mr. S. Villar be appointed Chairman of this Committee for the present year.

Minutes. The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Reports on July Examinations. The reports of the Delegates, Chairmen of the Board of Examiners, and the Local Secretaries were read and considered.

(a) A delegate at one school reported that in Class D there was no proper supervision of students performing surgical operations, so that it was possible for one student to assist another.

And it was resolved to recommend that this report be brought to the notice of the Examiners.

(b) Reference was also made to the presence of teachers at the Oral Examinations.

And it was resolved that in the opinion of this Committee it is highly improper on the part of a teacher to interfere in any way with the conduct of an examination, or to endeavour to influence the Examiners' award.

(c) Dublin examination. It was resolved that a letter of thanks be forwarded to Mr. Alfred Miller for the loan of desks for the Written examination, and to Col. Moore for the supply of horses for Class D Oral examination.

(d) It was resolved that the examination fee of Mr. H. T. Wright, who was unable to attend through illness at the examination in July, be held over until December next.

Educational Certificates. Educational Certificates numbered 1187 to 1192 were submitted and approved.

Examination Bye laws. Bye-laws numbered 56 to 84, revised at the previous meeting, were submitted and provisionally approved, the Chairman undertaking to give the usual notice as required by the Charters.

Edinburgh University Ordinance. The draft Ordinance for the award of Degrees in Veterinary Science by the University of Edinburgh was considered and approved.

Mr. VILLAR: I beg to move that the report be adopted.

Mr. MASON: I beg to second that.

Mr. GARNETT: There is one point in the report with regard to the Examination Bye laws to which I should like to refer. I do think it would be a very good thing if the whole of the Examination Bye-laws could be carefully gone through, more especially with regard to those bodies which have the power to issue preliminary licences which are accepted by this Council. It is well-known that we require our students to pass at their Preliminary Examinations all the subjects at one time, and that the standard should be the same as that which will admit a student who is taking up ordinary medicine without the necessity of passing the same subjects all at one time. I do think that we should place our students on the same level as medical students, and that we should not require of them a harder test in the Preliminary Examination than is insisted upon by the General Medical Council. For that purpose I would like to suggest that the matter I refer to be sent to a special committee, who will go into the whole question thoroughly, and give our students the same opportunities of passing their Preliminary Examinations that are accorded by the Medical Council to medical students. I would also like to suggest, in order that there might be no misconception that I want in any way a lower standard for the candidates, to say that if anything the standard of the Preliminary Examinations if taken in this way should be raised from 5 to 10 per cent. I would like to propose that a Special Committee be appointed to go into the question of these Preliminary certificates adopting these Bye-laws.

Mr. CARTER: I have very great great pleasure in seconding the motion Mr. Garnett has moved. It is a thing which has my sympathy and support. I am quite

in agreement with everything he has said, and I hope it will meet with the approval of the Council.

Sir JOHN M'FADYEAN: I venture to say, sir, that I think both Mr. Garnett and Mr. Carter must be under a misapprehension, because anyone would gather from what Mr. Garnett said that there are certain examinations at present acceptable by the General Medical Council which we do not accept. I believe that to be not correct. It is also not quite correct to say that it is a rule of universal application that all the subjects of the different examinations must be passed at one time. A clear distinction is drawn in our own schedule and in the Regulations of the General Medical Council in that respect. There is quite a considerable number of examinations included in the list in which the candidate may present himself at different times, that is to say, he may pass part of the examination at one time and part of the examination at another time. In order to obtain universal assent to that statement, I have only to mention that it includes degrees in arts of the various universities at home and in the Colonies, and of course nobody can get a Degree in Arts by sitting at one examination. I rather deprecate the idea that there is at the present time any occasion whatever to throw our regulations with regard to the general knowledge examination so to speak into the melting pot. So far as I know, there is really no reason why we should have Schedule 1 revised at all at the present time, except to eliminate from it certain examinations that may now have become obsolete. When that Schedule 1 was first adopted by us we took it wholesale and verbatim from the Regulations of the General Medical Council, and so far as I am aware we have not altered it since, except to add to it, after due deliberation by this Council, examinations which in the interval had been accepted by the General Medical Council. I do not oppose the proposal that the Committee might also revise the Schedules, but I think it ought not to be suggested to them that they are to consider whether they should strike out any of the examinations in the list unless those examinations are obsolete, and that they should also not consider whether there are any existing examinations to be added to it. If it comes to the knowledge of any member of Council that there is any examination now accepted by the General Medical Council and not accepted by us, the proper procedure is that which has been adopted in several recent cases, to move a resolution in the ordinary course and have the notice of alteration of the Schedule suspended on the notice board. I know a good many other teachers and some of the examiners think that our syllabuses with regard to the various examination subjects might with advantage be reconsidered and perhaps amended, but that is a totally different question. I am not one of those who think that syllabuses are of very great value. I do not think you can tie the hands of an examiner very tightly by a syllabus, but at the same time syllabuses naturally tend to get a little out-of-date, and I would suggest that it might be specifically remitted to the Committee to go into the question of the provision of syllabuses, empowering them to consult with the teachers of the various subjects in the different schools, even if they are not members of Council, and to consult with the present examiners and to bring up recommendations.

Mr. GARNETT: May I be allowed one word of explanation in reply to Sir John? I was referring to those certificates more especially which you will find under Schedule 3 on page 81 of the Register—"Examinations for First Class Certificate (the required subjects to be passed at one or not more than two examinations). Preliminary Examination for medical students (the required subjects to be passed at one time)." According to that the Preliminary Examination for medical students can be passed at more than one examination.

Sir JOHN M'FADYEAN : Which examination is that ?
Mr. GARNETT : The preliminary examination for medical students.

Sir JOHN M'FADYEAN : That relates to the College of Preceptors only. That is the misapprehension. Mr. Garnett is alluding to the four lines under the head of College of Preceptors on page 81, but that relates to the College of Preceptors, and to the College of Preceptors only.

Mr. GARNETT : Then there is the examination of the Educational Institute of Scotland, which I should think a great proportion of our students take, and there again you find the required subjects have to be passed at one time.

Sir JOHN M'FADYEAN : They must be passed at one time in order to satisfy our own Council.

Mr. GARNETT : That is what I want altered. I want our students to be on exactly the same basis as the medical students, who can pass their Preliminary Examinations at various times.

Sir JOHN M'FADYEAN : Excuse me speaking again, sir. I submit, with due respect, that Mr. Garnett is under a misapprehension. If the Schedule were altered as he suggests we would then be making it easier for our intending students than for intending medical students. It is a mistake to suppose that an intending medical student can get an acceptable certificate from the Educational Institute of Scotland without having passed in all the specified subjects at one time. I affirm that to be correct without any shadow of doubt.

Mr. TRIGGER : I would like to say one word with regard to this. It appears to me that if you carry this suggestion to its logical conclusion and have piece-meal examinations we shall defeat our own bye-law. Why on earth then should not the students pass the professional examinations piece-meal ? Our bye-laws are very clear on that point, that that shall not be done now. We insist upon all the subjects being passed at one time. If you pass Mr. Garnett's resolution it will only be necessary to go a step further to open the door towards whitening down the professional examinations as well.

Mr. McKINNA : I am not in favour of Mr. Garnett's proposal. We have got the power in our own hands to lay down the examinations which we accept without copying very much from others. If we adopt the suggestion we shall lower our standard rather than raise it.

The PRESIDENT : I take it the Council are of opinion generally that these schedules should be passed in review, and that the Committee will have to report this Council before anything can be done. No harm will be done in reviewing the schedule of educational certificates. I think the speakers generally have been of opinion that the schedule should be passed in review, and it has been suggested that certificates might be deleted if they are obsolete.

Mr. ARSON : I remember some years ago this subject came up and was discussed for some considerable time by the Council, and after a sharp fight we came to the unanimous conclusion that the Matriculation examination should be passed at one time. I see no reason whatever why that should be altered now.

The PRESIDENT : This is really a matter for future discussion ; it does not really arise under this report. It has been suggested that the two schedules should be sent to the Examination Committee for revision, and then their report can be discussed subsequently. The question of any alteration should not come up now.

Mr. TRIGGER : I do not think there is need for any revision at the present time, and I move an amendment that we do not consider the matter.

Mr. MASON : I second that.

The PRESIDENT : That will be an amendment to Mr. Garnett's resolution, and it will be in the form I pre-

sume that no action be taken as regards this Education Schedule.

The amendment was then put and carried, 8 voting for and 5 against.

The PRESIDENT : I take it it is the feeling of the Council that in that revision of the bye-laws the schedule referring to the professional examinations be considered by the Examination Committee. You referred to that, Sir John in your speech.

The TRIGGER : But my amendment has been passed.

The PRESIDENT : I quite understand that, but that applies to the education. Sir John spoke with regard to the professional examination syllabuses.

Sir JOHN M'FADYEAN : I suggest it should be considered by the same Committee which has been appointed.

The PRESIDENT : That they shall have the power to pass in review the syllabuses of the professional examination.

Sir JOHN M'FADYEAN : The motion is Mr. Garnett's. The PRESIDENT : That referred, I take it, to the Educational certificates.

Sir JOHN M'FADYEAN : No, to the whole of the schedules.

The PRESIDENT : But the amendment which I put and which was carried was with regard to the Educational certificates.

Sir JOHN M'FADYEAN : Yes, and in so far as Mr. Garnett's motion related to the Educational certificates it is defeated.

The PRESIDENT : Will somebody propose, in order to clear the deck, that the syllabuses of the professional examinations be considered by this Committee ?

Mr. McKINNA : There is already a Committee in existence.

The PRESIDENT : There is no reference to them. Mr. McKINNA : Why should not the Committee continue its labours until it finishes ?

Prof. BRADLEY : I move that the Second Schedule be referred back to the same Committee.

Mr. BANHAM : I second that.

The PRESIDENT : It is proposed by Prof. Bradley, and seconded by Mr. Banham, that the syllabuses of the professional examinations be referred to the Committee, with power to obtain information from examiners and teachers.

The resolution was then put and carried.

Mr. VILLAR : I should like the position to be made quite clear. Is the Examination Committee to consider Schedule No. 1 ?

The PRESIDENT : No, Schedule No. 2.

Mr. VILLAR : Mr. Garnett's motion that a Special Committee should be appointed was defeated ?

The PRESIDENT : Yes. What has been passed now is that we refer back to the Examination Committee the facts relating to the professional examinations, Schedule No. 2.

Mr. VILLAR : And on Schedule No. 1 no action ?

The PRESIDENT : Yes.

The resolution for the adoption of the report of the Examination Committee was then put and carried unanimously.

PARLIAMENTARY COMMITTEE.

Mr. GARNETT read the following report of a meeting of the Parliamentary Committee held on October 12th, 1911 :—

Appointment of Chairman.—It was resolved that Mr. F. W. Garnett be appointed Chairman of this Committee for the ensuing year.

Minutes.—The minutes of the meeting held on April 6th having been printed and circulated, were taken as read and confirmed.

Informal Meeting.—The following report of an in-

formal meeting, held on July 7th, was read and confirmed:—

Finance Bill.—The Chairman explained that the meeting was called in order to discuss a matter which had arisen since the issue of notices convening Committee meetings.

A letter was read stating that a petition was being laid before the Chancellor of the Exchequer with the view to obtaining an exemption from the special licence required for the sale of alcohol to medical practitioners and pharmacists, and suggesting that an attempt should be made to obtain the same exemption in favour of veterinary surgeons.

It was resolved that the matter be left in the hands of Mr. W. F. Barrett.

It was resolved that a petition be lodged with the Chancellor of the Exchequer praying that veterinary surgeons be placed on the same footing as medical practitioners and pharmacists with regard to the purchase of small quantities of alcohol.

Protection of Animals Act.—The Chairman reported the passing into law of the Protection of Animals Act, 1911.

And it was resolved that the Clauses of this Act relating to veterinary surgeons be published in the Register for 1912.

General Purposes: Cleaning of Windows.—Estimates were submitted for the cleaning of the windows in the College building, and the estimate of the Army and Navy Cleaning and General Industries Co., Ltd., was accepted.

Mr. GARNETT: I move that the minutes be received and adopted.

Mr. ROBERTS: I second that.

Mr. TRIGGER: Have you the assurance that these men are all insured by the companies?

Mr. GARNETT: Yes, that is so.

The resolution for the adoption of the report was carried unanimously.

ANNUAL FEE COMMITTEE.

Sir JOHN M'FADYEAN read the following report of a meeting of the Annual Fee Committee held on October 12th, 1911:—

Appointment of Chairman.—It was resolved that Sir John M'Fadyean be appointed Chairman of this Committee for the ensuing year.

Minutes.—The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Amendment Bill.—The Committee had again under consideration the following resolutions from the Highland Agricultural Society:—

COPY OF RESOLUTIONS ADOPTED UNANIMOUSLY AT A GENERAL MEETING OF THE MEMBERS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND, HELD 7TH JUNE, 1911.

Veterinary Surgeons Act (1881) Amendment Bill.—

1. That the Society learns with satisfaction that the Sections of the Bill providing for the extension of the disciplinary powers of the College have been withdrawn.

2. That the Society would desire to refrain from taking action with regard to the domestic policy of the College or of the profession, provided the interests of stockowners were reasonably safeguarded, and therefore would be prepared to withdraw its opposition if Sub-section 5, Section 3, be amended so as to provide that such bye-laws as may be made or altered under the provisions of this Sub-section must have the approval not only of the Privy Council but also of the Board of Agriculture and Fisheries.

The Solicitor reported that he had had further correspondence with the Secretary of the Society, but that he

had been unable to induce the Society to alter their attitude on the point raised, namely that the bye-laws to be made under the new Act should be submitted to the Board of Agriculture as well as to the Privy Council. The Committee recommend that no further action be taken in the matter at present.

It was resolved that the Veterinary Surgeons Act (Amendment) Bill be reintroduced in the next session of Parliament.

It was also resolved to recommend that the name of Dr. Bradley be added to the list of Members of the Committee.

On the motion of Sir John Fadyean, seconded by Mr. Trigger, the report was adopted.

PUBLICATION COMMITTEE.

Mr. ABSON read the following report of a meeting of the Publication Committee held on October 13th, 1911:—

Appointment of Chairman.—It was resolved, (a) That Mr. Stockman be appointed Chairman of this Committee for the ensuing year.

(b) That in the absence of Mr. Stockman the Chair be taken by Mr. J. Abson.

Minutes.—The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Register, 1912.—The printing of the Register for 1912 was considered, and it was resolved that the work be entrusted to Messrs. H. & W. Brown, and that 500 copies be printed.

Advertisements.—The Secretary was instructed to continue the insertion of advertisements and to endeavour to obtain a larger number.

On the motion of Mr. Abson, seconded by Mr. Mulvey, the report was received and adopted.

STEEL MEMORIAL COMMITTEE.

The SECRETARY read the following report of a meeting of the Steel Memorial Committee held on October 13th, 1911:—

Appointment of Chairman.—It was resolved that Prof. A. E. Mettam be appointed to the Chair.

Minutes.—The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Award of Steel Medal.—The question of the award of the Steel Medal was considered, and, after discussion, it was resolved to recommend that the medal be not awarded this year.

On the motion of Mr. Mason, seconded by Mr. Mulvey, the report was received and adopted.

FITZWYGRAM PRIZE FUND.

The SECRETARY read the report of the Auditors on the FitzWygram Prize Award, which certified that they had checked and found correct the number of marks gained by the students shown on the list, the first two being Mr. J. T. Edwards, of the Royal Veterinary College, London, 820 marks, and W. D. Connochie, of the Royal Dick College, Edinburgh, 818 marks. The total income to be divided was £63 18s. 4d. The first prize, which, in accordance with the Trust, was five-eighths of the amount, was £39 18s. 11d., and the second prize, consisting of the remaining three-eighths, was £23 19s. 5d.

Mr. VILLAR: I beg to move that the report of the Auditors be accepted, and that cheques be drawn for the amounts and forwarded to the successful candidates. It is quite interesting to note the severe competition there has been between the winners of the prizes. You will notice that on a total of between 800 and 900 marks there is a difference of only two between the first and second.

Mr. LAWSON seconded the motion, which was carried unanimously.

WALLEY MEMORIAL PRIZE AWARD.

The SECRETARY: I have to report that I have received a letter from Mr. Woods saying, "I cannot let you have the result to-morrow; I have not yet received the report of the Examiners." The result must therefore be deferred until January. It is rather early to expect the result at this meeting. It has usually been announced in January.

Sir JOHN M'FADYEAN: You must remember the examination was only held on September 30th.

APPOINTMENT OF SECRETARIES OF BOARD OF EXAMINERS IN SCOTLAND, LIVERPOOL, AND DUBLIN.

The PRESIDENT: Applications have been received from our old local secretaries, Mr. Archibald Baird in Edinburgh, Mr. Finlay Kerr in Dublin, and Mr. Blackhurst in Liverpool. There are no other applications for the posts.

Sir JOHN M'FADYEAN: I beg to move that these gentlemen be respectively appointed Secretaries of the Board of Examiners in Edinburgh, Dublin, and Liverpool for another year.

Mr. MASON: I second that.

Mr. CARTER: May I ask what is the salary awarded to Mr. Blackhurst of Liverpool?

The SECRETARY: Ten guineas per annum.

Mr. CARTER: Mr. Blackhurst asked me if I would kindly ask the Council if they would grant him a little additional amount above that. I am quite aware of the strained condition of the finances of the College, but I think you should bear in mind that Mr. Blackhurst has to devote the whole of ten days to this work, and I believe I am correct in saying that he has to pay his railway fares and cab fares out of the ten guineas paid him. If the College could see its way even to pay the fares it would be something, because you cannot expect Mr. Blackhurst to carry a big bag across the town at the time of the examination. He is bound to have a cab.

Mr. TRIGGER: I rise to a point of order. There is no application for an increase of salary.

Mr. CARTER: I believe he has mentioned it in his letter.

Mr. MULVEY: He has not made an application for an increase, although he has protested against the smallness of the amount paid.

The PRESIDENT: I will read his letter. He says: "If it meets with the wishes of the Council I shall be pleased to act again as the Secretary for Liverpool, although the fee is very small for such a responsible position.—Faithfully yours, Charles Blackhurst."

Mr. CARTER: If this Council could see its way I should like them to increase the amount they pay to him.

The PRESIDENT: It has been proposed that these three gentlemen be re-elected as Local Secretaries. Is that your wish?

The resolution was carried unanimously.

NOTICE OF MOTION.

Mr. VILLAR: I have to give notice that at the next meeting of this Council I shall propose, in my capacity as Chairman of the Examination Committee, the alteration of some of the bye-laws referring to the examinations. These have already been considered by the Examination Committee, and the list of alterations will be suspended according to the terms of our Charter.

VOTE OF THANKS TO THE PRESIDENT.

Mr. MASON: I should like to move a vote of thanks to the President for the expeditious manner in which he had despatched the business to-day.

Mr. McKINNA seconded the motion, which was carried by acclamation.

The PRESIDENT having briefly acknowledged the compliment, the meeting terminated.

SOUTHERN COUNTIES
VETERINARY SOCIETY.

(Continued from p. 238.)

VISIT TO ARMY VETERINARY SCHOOL, ALDERSHOT.

On the conclusion of the meeting, the members and visitors, under the guidance of Major Newsom, proceeded via Gun Hill to the School, where they were received by Col. E. H. Hazelton, F.V.O., Aldershot Command, and other officers present were Capt. E. P. Argyle, Capt. E. J. Wadley, Capt. Steevenson, with Messrs. B. R. Body and F. Sheedy.

The X-ray apparatus, as the first installation of its kind in England, and as being regarded yet as quite a luxury by the general run of private practitioners, claimed first attention. It is housed in a building about 40ft. square: a standard 8ft. high carries a horizontal arm by a clamp adjustment, and having a long pitched screw adjustment horizontally, so that the bulb can be brought into action from the near fetlock to the off ear of a tall troop horse. The bulb is carried in a blue glass globular screen open at the back with a two-inch aperture for exposure. The plates are carried in envelopes impervious to daylight. The current is taken from the service mains at 200 volts, and is reinforced by the use of a "booster"—a large induction coil—which enables the time of exposure to be reduced to one-sixth of a second—a valuable consideration in the case of a fidgety animal. Major Newsom very kindly had a couple of horses brought in, and with the aid of a junior officer gave a demonstration of the apparatus in use.

Then the class room was visited, with seating and desk room for about 30 men. This is used for the elementary teaching of the men of the Corps as well as for officers in training, and has amongst patterns of shoes, specimens of grasses, and other appliances, a 3ft. folding anatomical model of a horse.

The laboratory runs across the building, and so is lighted from both ends. There is room for five microscopes, with the usual tiled bench with tube rack, and necessary fittings. At the other end are sinks, an electric centrifuge, a rapid water heater, and other conveniences. Altogether the impression to a visitor was that it is a compact, serviceable, workmanlike outfit. An item that attracted attention from several members who belong to the Territorial Force was a tattooing process, which replaces the old practice of branding on the hoof. It is applied on the membranes over the upper incisors, and is likely to be generally used. Incidentally it was mentioned that there were over 7000 horses in and about the camp.

The museum is on the floor above, and as might be anticipated, contains a large collection of bones. There is a variety of specimens of shoes and saddlery, drugs and foods, and a model of the enclosures for exercising horses, devised by Major F. Eassie, and successfully used at the remount depôts in the South African war. Many other objects of interest had to be passed without examination—time did not allow of it.

A very pleasing feature of the visit was the readiness of all, seniors and juniors alike, to explain in reply to the numerous enquiries, and generally to make the visit a pleasant one.

Tea was provided in the Library by the kindness of Colonel Hazelton and his staff, and before leaving,

Mr. SLOCOCK, as the senior Vice-President, said that he was sure it was the wish of every member of their party that day that they should tender their hearty thanks to Colonel Hazelton, Major Newsom, and the other officers of the staff for their kindness and courtesy in entertaining them that afternoon. They had enjoyed an intellectual feast as well as bodily refreshment, and he was sure he was expressing the sentiments of them

all when he said they hoped they would have the pleasure of paying another visit when they met in Aldershot again. (Applause.)

Colonel HAZELTON, in reply, said it was very kind of Mr. Slocock to thank his brother officers and himself for the little they had done, and he could only say it had given them quite as much pleasure to receive them as they had experienced in coming to see the School. The School was a place which they thought the members of the Society would like to see, and Major Newsom was a most enthusiastic and interesting guide, in fact he liked to lecture and talk so much that he (Colonel Hazelton) did not often go near him more than he could help. (Laughter.) He was sure, however, it had given a real pleasure to the Major to go round the School with them that day, and when they did come to Aldershot again he hoped they would also come and see them again. (Applause.)

J. ALEX. TODD, *Hon. Sec.*

VICTORIA VETERINARY BENEVOLENT FUND.

The quarterly meeting of the Council of this Fund was held at 10, Red Lion Square, Holborn, on Thursday, October 12th. There were present Mr. P. J. Simpson in the Chair (owing to the absence of the President in South Africa), Messrs. Trigger, Villar, MacCormack, Hobday, Dunstan, Garnett, Gooch, Banham, Abson, Burt, junr., Slocock, Prof. Woodruff, and the Secretary, W. Shipley.

The minutes of the previous meeting having been read and confirmed,

The SECRETARY reported that further enquiries and investigations had been made as to the position of the recipients of the grants. It was felt that great efforts should be made to increase the number of annual subscribers, and with the hope of that object being attained, increased grants were made in the most deserving cases.

There were three fresh applications for relief. Grants were made in two cases, and further enquiries to be made in the third. Only the financial position of the Fund prevented larger grants being made.

It was resolved to appoint a Finance Committee to assist the Secretary and Treasurer and to advise the Council. The following members were proposed and adopted: Messrs. R. C. Trigger, F. W. Garnett, and P. J. Simpson.

A leaflet stating the objects of the Society, as follows, was adopted.

This Fund was established as a memorial to the late Queen Victoria by the members of the veterinary profession. The objects of the Society are to afford assistance to necessitous and deserving members of the Royal College of Veterinary Surgeons, or necessitous members of the families of members of the Royal College of Veterinary Surgeons.

There are many claims on the Funds of the Society with only a limited income to meet them. Our income from subscribers is considerably less than our expenditure.

Help in the way of annual subscriptions is urgently needed.

The members of the Council will welcome any information from members of the profession as to cases of distress for investigation, as they are aware many sad cases exist which never come to their knowledge.

Your assistance as an annual subscriber is earnestly solicited.

Any particulars can be obtained on application to the Honorary Secretary, Mr. W. SHIPLEY, F.R.C.V.S.

It is hoped the members of the Council and others interested will obtain a supply of these leaflets from the Secretary for distribution among their friends.

The banking account of the Fund was transferred to Messrs. Barclay and Co., Great Yarmouth, for the convenience of the Treasurer.

W. SHIPLEY, *Hon. Sec.*
28 Southtown, Gt. Yarmouth.

THE CENTRAL VETERINARY SOCIETY.

The annual general meeting was held at 10 Red Lion Square, W.C., on Thursday evening, October 5th. Mr. W. S. Mulvey, President, occupied the chair, and the following Fellows signed the attendance book: Messrs. R. J. Foreman, A. E. Willett, P. W. Dayer Smith, Sydney H. Slocock, W. Perryman, James Rowe, E. Lionel Stroud, H. D. Jones, James A. Gosling, A. Rogerson, W. Roger Clarke, and Hugh A. MacCormack, *Hon. Sec.*

On the motion of Mr. Foreman, seconded by Mr. Rowe, the minutes of the last meeting were taken as read and confirmed.

CORRESPONDENCE.

The SECRETARY announced that letters regretting their inability to attend the meeting had been received from Messrs. J. C. Coleman, J. W. McIntosh, and Charles Roberts.

The following letter from Prof. A. Gorton, *Hon. Sec.* of the proposed Amalgamation of Veterinary Associations, was read:

"Royal (Dick) Veterinary College,
Edinburgh, Sept. 4, 1911.

Dear Sir,

I have to intimate that the following resolution was carried at the annual meeting of the National Veterinary Association: "That the rules of the National Veterinary Association as amended by the Committee appointed for the purpose and submitted at the meeting of the Council at Carnarvon on July 25th, be adopted, and that the same Committee be reappointed to make arrangements to bring the amended rules into operation at the annual meeting of the Association to be held in 1913."

A further motion was submitted and carried whereby it was ensured that existing members of the National Association shall become members under the amended rules.

I should be glad if you would intimate these resolutions to your Society at its first meeting, and as your Society has already expressed approval of the scheme, I should be glad to hear from you that it has formally expressed its intention of becoming affiliated to the National Association in accordance with the new rules.

—Yours truly,

(Signed) A. GORTON,
Hon. Sec. of the Committee.

The PRESIDENT moved that the subject should be put down for discussion on the agenda of the December meeting.

Mr. SLOCOCK seconded the motion. The matter, in his opinion, was one of considerable importance, which every Fellow of the Society should have the chance of enquiring into.

The resolution was carried unanimously.

RESIGNATIONS.

The SECRETARY announced that letters had been received from the following gentlemen tendering their resignations as Fellows of the Society: Major-General Sir Frederick Duck, K.C.B., Lieut.-Col. Longhurst, Mr.

Alfred Prudames, Mr. Ainsworth Wilson, and Mr. J. B. Hare.

The PRESIDENT thought that as Mr. Ainsworth Wilson was such an old Fellow of the Society and an old member of the Council, it would be very desirable that the Secretary should write to him and ask him not to resign, though he be living in Scotland.

Mr. FOREMAN suggested that the same course of procedure should be adopted with regard to Mr. Hare, who had removed to a town not very far from Dublin.

Mr. SROUD thought that as Mr. Prudames was an old past President and a very old Fellow of the Society, his resignation should not be accepted in the ordinary way. He suggested that the Secretary should specially write to Mr. Prudames expressing the Society's very great regret that old age had compelled him to sever his connection with it. It was simply through old age that Mr. Prudames had resigned, and old age makes many partings.

Mr. ROWE heartily supported Mr. Stroud's suggestion.

It was then unanimously agreed that the Secretary should write letters to Mr. Ainsworth Wilson, Mr. J. B. Hare, and Mr. A. Prudames in accordance with the suggestions made; and on the motion of Mr. Dayer-Smith, seconded by Mr. A. E. Willett, it was resolved that the resignations of Major-General Sir Frederick Duck and Lieut.-Col. Longhurst should be accepted with regret.

ELECTION AND NOMINATIONS.

Mr. R. STOKOE, M.R.C.V.S., London Road, Chelmsford, was balloted for and unanimously elected a Fellow of the Society.

Messrs. GEORGE GORDON, Victoria Road, N.E.; FRANK MACDONALD, Mile End Road; and J. D. WOOD, Public Health Department, L.C.C., were nominated as Fellows of the Society.

ANNUAL REPORT.

The SECRETARY read the following annual report:

Mr. President and gentlemen,—The Council have great pleasure in announcing that the Session 1910-11 has been a very successful one.

Nine Fellows have been elected and six have resigned. The annual meeting was held in October, at which Mr. W. S. Mulvey was unanimously elected President. Ten ordinary, one special Council, and two Council meetings have been held with an average attendance of thirty at the ordinary meetings.

In November the annual dinner was held at the Holborn Restaurant, at which 43 were present. At the December meeting the President gave his address.

We have to thank the following gentlemen for reading papers during the session: Mr. W. Hunting, "Questions concerning quittor"; Prof. H. A. Woodruff, "Our knowledge of the cause of roaring"; Mr. J. W. McIntosh, "Anthrax—its practical aspect"; W. R. Bennett, "Mange in horses"; Mr. W. Hunting, "Some questions concerning spavin."

Three meetings were devoted to impromptu discussion and reporting of difficult cases: the discussions therefrom were very instructive.

Mr. T. Salusbury Price delivered his report of the Public Health Congress held at Birkenhead, also Mr. G. H. Livesey his report of the Royal Sanitary Institute Congress held at Brighton this year. Mr. G. J. Bell represented the Society at the Royal Sanitary Institute Congress, Dublin; Messrs. A. L. Butters and J. J. Kelly were appointed to represent the Society at the Public Health Congress, Belfast, and their reports will be given in due course.

Your Council are gratified to note the increased number of interesting and instructive specimens brought forward at the meetings, and they hope Fellows will continue doing so. We beg to thank the following Fellows: Messrs. W. S. Mulvey, Prof. G. H. Wooldridge,

F. G. Samson, Prof. J. Macqueen, T. Salusbury Price, Prof. H. A. Woodruff, G. H. Livesey, W. Urquhart, J. W. McIntosh, S. H. Slocock, W. R. Davis, H. D. Jones, and W. Perryman.

The balance brought forward and receipts for the year amounted to £129 1s. 9d., and the expenses £78 13s. 1d. leaving a balance of £50 8s. 8d., which the Council consider satisfactory.

On the motion of Mr. A. E. Willett, seconded by Mr. Perryman, the report was unanimously adopted.

BALANCE SHEET.

The HON. TREASURER (Mr. Stroud) presented the balance sheet. In doing so, he said it would be noticed that the subscriptions were considerably less than last year. There was also a greater number of arrears to collect, between £50 and £60 being now owing to the Society from last year's and previous years' subscriptions. The balance itself was not quite so large as in the previous year, but ten guineas had been transferred to capital account, otherwise the balance would have been slightly larger than in the previous year. The other figures in the balance sheet were the ordinary figures that were published every year, and he did not think they called for any special comment.

Mr. ROGERSON, in proposing that the balance sheet be adopted, thought that the accounts, which had been duly audited, were a great credit to the Society. There was a nice balance in hand, and taking everything into consideration, the Society seemed to be in a fairly prosperous condition.

Mr. J. A. GOSLING seconded the motion, which was carried unanimously.

On the motion of Mr. Perryman, seconded by Mr. Jones, it was unanimously resolved that the Hon. Secretary and Hon. Treasurer should act as Scrutineers of the ballot for the election of President and officers.

ELECTION OF OFFICERS.

President.—The PRESIDENT considered he was greatly privileged in being able to nominate his successor in Mr. Foreman. (Cheers.) Mr. Foreman was one of the oldest Fellows of the Society, and had served on the Council rather longer than most of the preceding Presidents. There was no necessity for him to eulogise Mr. Foreman's qualifications for the position, because the Fellows knew quite as much about him as he did. He had the greatest possible pleasure in proposing that Mr. Foreman be elected President for the ensuing year. (Cheers.)

Mr. BUTTERS, in seconding the motion, said that everyone who had regularly attended the meetings knew the active share Mr. Foreman had taken in all the affairs of the Society, and if Mr. Foreman was willing to accept the Presidency he was sure the Society could not do better than elect him to that honourable position. (Cheers.)

The resolution was then put, and carried with acclamation.

The RETIRING PRESIDENT (Mr. W. S. Mulvey), before vacating the Chair, desired to thank the Fellows for the very great courtesy and kindness they had extended to him during the past year. His year of office had been a very easy and a very pleasant one, and if the Fellows were satisfied with his conduct of the affairs, the memory of it would be still more pleasant to him. (Cheers.)

The Chair was then vacated by Mr. Mulvey, and taken, amid hearty cheering, by Mr. Foreman.

The PRESIDENT (Mr. Foreman), who was received with cheers, thanked the Fellows for electing him President, and assured them that he greatly esteemed the honour which had been conferred upon him as he had great respect for the dignity of the Chair. If at any time during his term of office he had, should he say, to

be "objectionable" to any Fellow for breach of rules, it would not be as a private individual, but as the President trying to uphold the traditions of the Chair; and he hoped his ruling would be accepted in a like spirit. (Hear, hear.) He had said "if" only, and hoped that his term of office would be as free from any such necessity as the previous ones had been. He desired to ask the Fellows to offer papers for discussion. He especially asked them not to be afraid of offering too many. The Secretary would not be non-plussed even at such an extraordinary occurrence. (Laughter.) He would very much like to see Mr. MacCormack embarrassed in that way. He suggested that the Fellows who had recently joined should drop their bashfulness and enter freely into the discussions, as he was certain they could. Perhaps they feared criticism from the senior Fellows! Well, criticism was not harmful to health, and if they did get a bit of a knock it would not cause death through "shock to pride." They would just "chew" it over with a few cronies after the meetings, and would then find themselves laughing over the experience. (Laughter, and hear, hear.) He had been through the experience, so that he spoke with authority. He hoped the senior Fellows would continue to keep up the discussions and eliminate those awful pauses which made a President squirm. (Laughter.) He had intended to give a growl or two about the Fellows coming late to meetings, and also about holding conversations during the reading of the papers, but he would not do so on the present occasion for fear of getting himself disliked before being really sampled as President. (Laughter.) He now had the greatest pleasure in asking the Fellows to give a very cordial vote of thanks to Mr. Mulvey, the past President, for fulfilling the office so ably during the last session. To follow an experienced gentleman like Mr. Price was difficult, but he had managed it so well, with the assistance of the Fellows, that he hoped they would help him in a like manner to a successful year of office. (Cheers.)

Mr. A. E. WILLETT, in seconding the motion, said that Mr. Mulvey had always conducted the business of the Society in such an excellent manner that the Fellows had greatly enjoyed the meetings during the past year.

The resolution having been carried by acclamation,

Mr. W. S. MULVEY thanked the mover and seconder for the very kind things they had said about him, and the Fellows for the hearty manner in which they had received them. His year of office had been a very pleasant one, and now he had been assured that the Fellows were satisfied with his conduct of the business the memory of it would be still more pleasant to him.

Vice-Presidents.—The following gentlemen were elected: Messrs. W. S. Mulvey, A. Rogerson, J. A. Gosling, and P. W. Dayer-Smith were elected for the ensuing year.

Hon. Secretary and Hon. Treasurer.—Mr. MULVEY, in moving that the present Hon. Secretary and Hon. Treasurer be re-elected, said that Mr. MacCormack and Mr. Stroud had acted for so many years in their respective capacities that he was sure the Society could not find more desirable officials, because their work had always been done excellently. (Cheers.)

Mr. ROWE, in seconding the motion, heartily endorsed the sentiments of the proposer of the motion.

The motion was put and carried with acclamation.

The HON. TREASURER (Mr. Stroud), in returning thanks for the further honour conferred upon him, said that next February he would have completed twelve years of office in the Society, and it afforded him great pleasure to know that after so many years of work he still retained the confidence of the Fellows. (Cheers.)

The HON. SECRETARY (Mr. MacCormack) also thanked the Fellows for the great confidence they had shown in him by electing him for another period of office. He

had not been so long in office as Mr. Stroud, but he ran that gentleman fairly close. He was afraid, however, the fellows would have to look out for a new Secretary next year. (Cries of "No, no.") He was getting old—(laughter)—and the Fellows did not answer his "whip" so readily as they did in previous years. There was nothing like new blood for successfully carrying out the duties of the Secretaryship of such an important Society.

The PRESIDENT asked the members not to take too much notice of Mr. MacCormack's pessimistic remarks. Unfortunately the Hon. Secretary was not very well, and really ought to be at home in bed instead of at the meeting. At any rate, the Fellows would not accept his little tale of woe at present. (Hear, hear.)

Council.—The following gentlemen were elected:—Messrs. A. L. Butters, Prof. J. Macqueen, W. Perryman, Sydney H. Slocock, J. Willett, W. L. Harrison, Sidney Villar, J. W. McIntosh, Wm. Hunting, Prof. G. H. Woodriddle, Prof. H. A. Woodruff, and J. Rowe.

Auditors.—The PRESIDENT reminded the Fellows that two Auditors had to be elected, one of whom must be a member of the Council and the other a Fellow of the Society.

On the motion of Mr. Mulvey, seconded by Mr. Rogerson, the retiring auditors, Mr. Dayer-Smith and Mr. Roger Clarke were unanimously re-elected.

Dinner Committee.—It was unanimously resolved that the President, the Hon. Treasurer, the Hon. Secretary, Mr. Rogerson, and Mr. Hunting should form the Dinner Committee.

On the motion of Mr. Slocock, a hearty vote of thanks was accorded to the President for his conduct in the Chair, and the meeting terminated.

HUGH A. MACCORMACK, Hon. Sec.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION

A meeting was held in the Imperial Hotel, Darlington, on Friday, June 9. Mr. G. R. Dudgeon, President, in the chair. There were also present: Messrs. Dobbing, Taylor, and Hill, Darlington; W. H. Blackburn, Barnard Castle; John Wilson, Yarm; E. H. Pratt, Northallerton; and W. Awde, Hon. Sec., Stockton-on-Tees.

Mr. Snaith sent a telegram expressing his inability to be present. Mr. Jenkins also sent an apology.

The minutes of the previous meeting were taken as read and confirmed, on the proposition of Mr. Taylor, seconded by Mr. Hill.

Mr. HILL produced a freak of nature, viz., a leg from a cart foal which had the splint bone extra developed, with an appendage like a rudimentary limb.

Mr. BLACKBURN had met with a similar case and the foal was insured. The insurance company, however, demurred to pay for it if it was destroyed.

Mr. HILL also mentioned a case of parturition in which the tail was presented and he effected delivery with a hook in the pelvic bone and one over the crupper.

Mr. WILSON had met with one or two cases similar to that of Mr. Hill.

NOTES ON AN OUTBREAK OF ANTHRAX.

Mr. E. H. PRATT.

I think the following notes on an outbreak of anthrax to be of interest to the profession.

On Sunday, July 10th, a feeding bullock was found ill in the pasture. The services of a butcher were secured and the animal was bled where it lay: no precautions were taken to keep the other bullocks away (there were

eighteen of them). After the beast had been bled it was dragged on a gate to a barn and there dressed.

The butcher noticed that the spleen was enlarged, and as he had scratched his hand in getting over a fence on his way to the field where the beast was, he began to think about anthrax, and in the evening went in to Thirsk to see Mr. Wood, M.R.C.V.S., to get some information about the disease. Mr. Wood confirmed his doubts, and next day was called by the owner to see the carcass. He was able to confirm his diagnosis by microscopical examination of the blood and the case was reported to the police.

I visited the farm with Mr. Wood and found at the place where the beast had been bled the grass all trodden down by the other beasts. It was reported that some of them had licked up the spilt blood. The carcass was cremated and the contaminated sods taken up and burnt.

Nothing was noticed amiss with any of the other animals until Monday morning, the 18th, when, as the seven days had elapsed which the Anthrax Order specifies contact animals shall be isolated, the owner intended to send some which were fat to the mart. Five, however, were noticed to be ailing, and the fact was reported to the police and none of the animals were removed. One of the five died by noon, one in the evening, and one during the night: the fourth died on Tuesday night the 19th, and the remaining one died on Saturday the 23rd, five days after first being noticed to be ill.

One is of opinion that the five animals which died from the 18th to the 23rd contracted the disease through getting some of the blood from the animal which was bled in the field. It therefore gives one a lesson in the time of incubation, and also shows that the disease does not always run such a rapid course as is very generally supposed.

The PRESIDENT then broached the subject of a "picnic" and thought it could be made a success if well managed. After considerable discussion Mr. Taylor proposed, and Mr. Wilson seconded, that a picnic be held, and a provisional Committee be formed to take the matter in hand and make the necessary arrangements forthwith: Messrs. Dobbing, Hill, and Taylor to form the Committee.

Mr. HILL opened the discussion on the President's address (p. 761, June 3), and thought that we should come to some arrangement and fix a minimum charge for operations, mileage, etc. He had been asked to go to a place three miles away to castrate a colt, and when he had arrived the owner asked what he was going to charge for operation, and when told, flatly declined to have him done at the price.

Mr. WILSON thought that the Insurance companies were beginning to offer better terms for the examination of animals, but there was still room for improvement.

Mr. TAYLOR considered that castration fees should be higher than they now are, but considerable difficulty would be experienced in raising them as there were men who still take the old price. The payment of a guinea registration fee was quite right in his opinion as it would go to the benefit of the profession.

Mr. PRATT thought a meeting of members and non-members might be called, and the question of fees could be discussed openly, and they might bind themselves to some joint action.

Mr. BLACKBURN said that he had been offered 3s. after operating on a colt. He also mentioned the fees paid by the Board of Agriculture for examining mares, viz., 7/6, and did not consider that it was sufficient. The difficulty is to get members to combine, and so many belong to no veterinary association.

Mr. DOBBING thought we ought to stand by each other and make uniform charges and stick to them.

The SECRETARY had found great difficulty in obtaining concerted action.

Mr. DUDGEON then replied, and said that the opinion generally expressed was that the fees were not satisfactory, but how to get them remedied is the crux of the whole question. The Insurance Companies expect you to make their examinations when passing the places, but considering the nature of the questions asked, and which had to be answered, the fee was far too little. The trouble would be to bind anyone to any arrangement arrived at or agreed to.

Mr. HILL proposed, and Mr. Wilson seconded, that a meeting of members and non-members be called to consider the question of fees, and that it be held four weeks to-day, viz., on July 7th, and that a notice be inserted in *The Veterinary Record*.—Carried.

ELECTION OF OFFICERS.

President.—Mr. W. AWDE, F.R.C.V.S., Stockton-on-Tees. Proposed by Mr. Taylor, seconded by Mr. Dudgeon.

Vice-Presidents.—Mr. C. G. HILL, M.R.C.V.S., Darlington; Mr. J. H. TAYLOR, F.R.C.V.S., Darlington. Proposed by Mr. Dudgeon, seconded by Mr. Wilson.

Secretary and Treasurer.—Mr. J. H. TAYLOR, F.R.C.V.S., Darlington. Proposed by Mr. Awde, seconded by Mr. Hill.

Auditors.—Mr. W. N. DOBBING, M.R.C.V.S., Darlington; Mr. J. H. TAYLOR, F.R.C.V.S., Darlington. Mr. W. Awde proposed their re-election, and Mr. Wilson seconded.

It was proposed that Mr. Hill's paper and discussion thereon be adjourned till another meeting.

W. AWDE, Hon. Sec.

A meeting was held in the Imperial Hotel, Darlington, on Friday, Oct. 6th. The retiring President, Mr. G. R. Dudgeon, Sunderland, being in the Chair. There were also present Messrs. P. Snaith and A. C. Forbes, Bishop Auckland; W. H. Blackburn, Barnard Castle; J. Wilson, Yarm; W. N. Dobbing, C. G. Hill, and J. H. Taylor, Darlington.

The minutes of the June meeting not being to hand, those of the special meeting held on July 7th were taken as read, on the proposition of Mr. Snaith, seconded by Mr. Wilson.

Mr. J. M. WALKER, West Hartlepool, was unanimously elected a member, on the proposition of Mr. Hill, seconded by Mr. Forbes.

A letter was read from Mr. W. Awde, the President-elect, regretting very much that he was unable to be present owing to illness, and apologies for non-attendance were also received from Messrs. H. Peele, E. H. Pratt, J. M. Walker, and F. H. Jenkins.

Mr. Jenkins wrote stating that he thought the report upon a roarer operated upon by Prof. Hobday on June 20th last might interest the members. The subject was a bay hunter, six years old, 17 h.h., a very bad roarer indeed which could be heard a good distance away, the operation was performed on both sides of the larynx. For the last month or six weeks the horse had been gently trotted and cantered, and no noise detected.

On October 3rd he had given the horse a very trying test, and was unable to detect the slightest noise, and had he not known of the operation he should not have had the slightest suspicion that it had taken place, the external wound having healed so well.

The Hon. Sec. was instructed to write and thank Mr. Jenkins for his letter.

A letter was read from Prof. Gofton re joining the National Association in accordance with the amalgamation scheme, and it was unanimously agreed on the proposition of Mr. Snaith, seconded by Mr. Forbes, that

this Association become affiliated to the National Association in accordance with the new rules.

A letter was read from Prof. Woodruff *re* the fund for the purpose of assisting Mr. William Kirk in the appeal raised by the London County Council to compel veterinary surgeons to pay for the use of the College crest.

A discussion took place as to whether the Association should subscribe a certain sum, or whether it should be left to the individual members to contribute, and it was eventually proposed by Mr. Dobbing, and seconded by Mr. Hill, that the sum of one guinea be sent from the Association, and this was carried unanimously.

The TREASURER submitted the annual financial statement of the Association, which showed an adverse balance of 11s.

It was pointed out, however, that subscriptions to the amount of £9 19s. 6d. were due from the members, so that the Society was really in a sound condition as to funds.

According to custom the Chair at this stage of the meeting ought to have been taken by the President-elect, but owing to his absence it was proposed by Mr. Snaith, and seconded by Mr. Dobbing, and carried unanimously, that Mr. Dudgeon should continue to occupy the chair until the close of the meeting. The reading of the President's inaugural address was postponed until the next meeting.

Mr. DUDGEON said that he should now like to thank the members for their assistance in making his past year of office a pleasant one. He had done his best to promote the interests of the Association, and thought that the members had also done theirs. He was glad that the matter *re* professional charges had been taken up outside their Association, although not perhaps in quite the way in which he had intended that it should, still it was a matter of some interest that notice had been

taken of the effort of the Association in that direction.

He should like to thank Messrs. Dobbing, Hill, Blackburn and Taylor for the way in which they arranged the details for the picnic of the Association, which was the first the members had had, but he trusted that it would not be the last, for he never enjoyed a day more in his life.

He wished to thank the gentlemen who had kindly read papers, and thought that the discussions thereon had been most interesting and well maintained.

The members then dined together in the hotel.

JAMES H. TAYLOR, Hon. Sec.

The Royal Sanitary Institute—South African Branch.

The South African Branch of the Royal Sanitary Institute are arranging to hold a Congress in Cape Town on November 9th, 10th, and 11th. This is the first sanitary Congress to be held in British South Africa, and it is hoped that a large number of delegates will be sent by the Municipalities and other authorities interested in sanitation. Among the subjects set down for discussion are, the disposal of sewage; the prevention of tuberculosis; the inspection of food; milk supplies; and school hygiene. Papers will also be read dealing with other aspects of public health work.

The South African Branch, which has only recently been established by the Royal Sanitary Institute, seems to be energetically carrying on the traditions of the parent institution, and no doubt its work will have a beneficial effect in the development of public health administration in the Union of South Africa. The Honorary Secretary to the branch is Dr. A. Jasper Anderson, the Medical Officer of Cape Town.

DISEASES OF ANIMALS ACTS 1894 to 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		(including Farcy)		Glanders	Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Counties Affected		Outbreaks	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported					Animals Attacked			
Gr. BRITAIN.												
Week ended Oct. 14	18		21		1	1	6	16	Essex 1	2	36	533
Corresponding week in	1910	34	40				4	9	London 7	3	27	251
	1909	22	23				6	9		7	19	53
	1908	24	32				15	45			41	336
Total for 41 weeks, 1911	685		843		18	467	161	387	Middlesex 4			
Corresponding period in	1910	1148	1364		2	15	303	891	Surrey 1	315	2008	23565
	1909	1035	1366				435	1547	Sussex, W. 3	357	1141	10311
	1908	859	1143		3	112	658	2038		488	1358	12170
										649	1659	9960

Board of Agriculture and Fisheries, Oct. 17 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Oct. 14	...	...	...	...	...	...	...	2	3	20
Corresponding Week in	1910	...	...	...	...	...	...	...	5	1	53
	1909	...	...	...	...	...	...	1	...	...	...
	1908	...	...	...	...	...	...	1	4	5	18
Total for 41 weeks, 1911	...	7	14	...	...	2	3	52	271	107	1832
Corresponding period in	1910	5	8	...	...	1	2	60	371	75	1761
	1909	6	6	...	...	...	...	68	309	86	1561
	1908	7	10	...	...	...	...	34	285	146	3265

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 16, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The Mechanism of Variation in Plants and Animals.

Although "sports" play such an important part in Darwin's theory of the origin of species, he suggested no explanation of their occurrence. It is upon this point that Professor A. Gautier has endeavoured to throw light by a series of researches which have extended over more than thirty years, and the results of which he summarized in a communication to the French Academy of Sciences on September 11th. In 1879 he observed that in plants, at least, variations produced by crossed fecundation cause not only external changes but modifications in the specific molecules of the new being. It has long been known to horticulturists and botanists that the specific characters of the graft may be transmitted to the grafted stock and inversely. All botanists know about the celebrated medlar of Bronvaux, near Metz; it is more than 100 years old, and was grafted upon a hawthorn tree. Every part of the tree above the graft is a veritable medlar, but some years ago, a little below the position of the graft, a branch of medlar grew from the old trunk of the hawthorn, differing from the other branches by bearing thorns; while its flowers, instead of being solitary like those of the medlar, were collected into corymbs like hawthorn flowers. Gautier regards this as showing that the grafted stock was modified in consequence of the conjunction of the two plasmas. This transmission of the characters of one species to another can be more readily shown in herbaceous plants. Professor L. Daniel grafted *Helianthus laetifolius*, a kind of little sunflower, upon *Helianthus annuus*; the former is a perennial plant with a woody stem and well-developed rhizomes swelling into tubers; the latter is an annual plant, the stalk of which is provided with abundant pith, rich in inulin. By the coalescence of these two a race of sunflowers has been produced more persistent than the *annuus* with a hard woody stem having a dark green epidermis bearing numerous lenticles like the stalk of the little sunflower which furnished the graft. M. Jurie, the celebrated producer of hybrids at Lyons, five years ago communicated the case of a vine stock of the variety *Labrusca Isabella*, a dioecious American vine, which was grafted in 1882 with a Poulsard, a hermaphrodite French variety; in 1899 a branch grown from the graft showed the foliage of *Labrusca* instead of that of *Poulsard*, the flowers were as early as those of *Labrusca*, and its fruit intermediate in colour between the two varieties, as Professor Gautier was able to assure himself by personal observation; the tendrils were continuous, generally four or five together as in *Labrusca*; in fact the stock had communicated to a branch of the graft a part of its own specific characters. A similar modification was observed by M. E. Griffon on a branch of almond tree growing on a peach tree which had been grafted on an almond tree, and in many grafts made by Professor Daniel of capsicum on tomato, egg plant on tomato, and so on. These variations are sufficiently stable for them to be transmissible by seed. Professor Daniel has shown that this is so for varieties produced by grafting hedge garlic on cabbage, of Knight's pea on common bean, the plants grown from seed participating in the mixed qualities of the two species. There are, of course, limits to what can be done in this way; it is impossible to make a left-handed screw penetrate a right-handed nut even when thread and diameter are the same, and this is equally true of vegetable plasma. Chicoraceous plants may be grafted on one another, but those varieties which form inulin, a levo-rotatory starchy substance, cannot be grafted on those which form ordinary (dextro-rotatory) starch. The inversion of these two isomers testifies to the inversion of the plasmas which have produced them and explains their non-conjugation.

He compares with this the facts of teleony—that is, where the female which has been impregnated by a male of a different species so as to produce a hybrid, is liable to produce offspring showing similar characteristics, although the latter fecundation is by a male of her own species. A similar law is probably that by which the inoculation of a certain virus modifies the plasma so as to render it for a long time unable to contract the corresponding virulent disease. Prof. Gautier asks what are essentially the modifications which are produced in this manner, and appeals to his observations made during the last thirty years for the answer. It is known that there are some twenty varieties of vine with hermaphrodite flowers indigenous to this continent, and about fifteen varieties with dioecious flowers of the American vine. In the species *Vitis vinifera Europaea*, which comprises all the French vines, there are nearly 2000 varieties, the origin of which is not known, but their external characters suffice to distinguish them. Up to 1878 it was supposed that all the varieties of vegetable species, while differing amongst themselves in shape, in the form of their branches or leaves, in the disposition of their fruit, in its richness in sugar or colouring matter or its forwardness, were yet formed of the same protein, cellulose, colouring matter, and starch; but Professor Gautier, on examining very attentively the pigment of the fruit of the European vine, found that each variety produced in the skin or the pulp of the grape a specific pigment chemically differentiated. He gives the formulae of the pigment in six varieties, showing differences in the amount of carbon and hydrogen. These pigments are all feeble multibasic acids formed by the union of a trivalent radical, and all give by hydrolysis a phloroglucine and an aromatic acid peculiar to each, but always of analogous structure. This holds good for other vegetable families, each variety of acacia producing its special catechin, although these catechins belong to the same family and have the same general structure. In fact, except the ordinary substances, such as sugar, starch, and cellulose perhaps, all the chemical principles peculiar to the species or family, such as tannin, pigment, essences, and alkaloids, vary while preserving the essential features of their common chemical species. Since 1886 Prof. Gautier has explained the sudden variations observed in plants and animals by the coalescence of alien plasmas by which the normal plasma of the creature is modified. The plasma which excites the modification may be brought by insects or microbes, or by moulds acting upon the subterranean parts of a plant. In 1886 Prof. Gautier reported that a branch of moss rose had appeared one day upon a smooth sepal rose in the garden of the Luxembourg. On examining this abnormal branch they found that it bore a certain number of bedeguars having a mossy surface, which were produced by the puncture of a *Cynips*, which communicates to the rose tree and to the gall in which it deposits its larva the property of producing the mossy excrescences which characterise it. In 1889 MM. Charabot and Ebray showed that the puncture of an insect may cause certain stocks of peppermint to produce branches whose inflorescence resembles that of a neighbouring genus, the basilic (*Ocimum basilicum*), while according to Meehan, when the roots of *Liatria* and *Vernonia* are attacked by the mycelium of a mould their flowers become completely altered, their anthers remain sterile, and from being hermaphrodite these flowers become unisexual, as if some virus like that of the vaccine virus modified the plasma of the plant and its function. Moreover, if we deprive a plant of one of its natural zymases necessary to its normal development, it may undergo such changes as to resemble a new species; thus, in cutting the stalk of maize down to the ground at the moment when the male pannicle is about to develop, the maize known as Pennsylvania maize changes into *Zea mais pseudo-androgyna*, a new

species capable of being transmitted by seed. No doubt these great and sudden modifications of race and species are not always transmissible by seed, but they fail altogether to conform to the rules of slow and successive adaptation, and they only occur in a small number of individuals amongst thousands submitted to the same external conditions. The modifications which supervene in this way involve a transmission of the fundamental constituents of the new being; but, far from being monstrous, the variations in the individuals and races so produced do not, as a rule, transgress the limits beyond which the anatomical resemblance would disappear, while the specific principles of which their plasmas are constructed preserve their general chemical structure while undergoing modification.—*B.M.J.*

Cruelty Case at Hull.

At the East Riding (Hull) Police Court, on Wednesday, 11th inst., John Wilcox, a labourer, of 4 Rosebery Terrace, Newland, was summoned at the instance of the Hull and East Riding S.P.C.A., for working a brown horse in an unfit condition at Cottingham, on September 20th. Herbert Atkinson, dairyman, of Hull Road, Cottingham, was summoned for causing the horse to be worked.

Mr. G. S. Williamson prosecuted, and Mr. J. H. Payne defended.

Sergeant Sweeney gave evidence that he saw Wilcox driving the horse along the Hull Road, on September 20. The animal was lame and apparently in great pain. It was unfit for work, and on his advice Wilcox took the animal in.

Inspector Chivers stated that he examined the animal in the afternoon of the day in question in the defendant's field. It was extremely lame on the near fore leg, due to atrophy of the frog. The animal was in great pain. He saw Mr. Goodall remove several large live maggots, which were eating into the frog. It was in an incurable condition. It was lame to-day and not fit for work.

Mr. Goodall, M.R.C.V.S., of Hessle, said the horse's condition was due to absolute neglect. He took out a quantity of dirt and a nest of maggots from the cleft of the frog. He examined the other leg. There was supuration from the other foot, and more maggots in the hoof.

Mr. W. P. Ruthven, M.R.C.V.S., of Beverley, said he examined the horse on October 5th, and found it in great pain, and after he had examined the foot he had come to the conclusion that the horse had been lame for a long time. The animal could not have been fit to work on September 20th, as it was not fit for work when he examined it on October 5th.

Atkinson said that the horse was between 25 and 30 years old. For the past six years it had done no regular work and the reason he kept it was that his father was fond of it. He did not know on the day in question that the animal was in the condition described by the prosecution.

Mr. Frank Bradley, M.R.C.V.S., of Hull, said he examined the horse at the defendant's premises on Sept. 20th. It was in good condition generally. It was mechanically lame, without disease, and not in any pain at all. He examined the foot carefully, and found no sign of disease. There were no maggots. There was a slight moisture, but only such as was caused in all horses' feet when turned out to grass.

Ernest Thomlinson, blacksmith, said he shod the horse on September 23rd. There was nothing serious the matter with the feet. They wanted dressing a little, but it was impossible that they should be rotten on the 20th.

Mr. Harry Sowerby, M.R.C.V.S., said he examined the horse on October 2nd, and found no trace of disease in

the horse's foot at all. It was an old horse and in good condition. It was quite fit for work on that day. The animal was suffering from rheumatism.

The magistrates, after lengthy consideration, came to the conclusion that they would convict, though the circumstances did not justify a severe penalty. Atkinson was fined 10s. and costs, and against Wilcox judgment was respited.—*Hull News.*

Veterinary Degrees in the University of Edinburgh.

A scheme of co-ordination has been arranged between the University of Edinburgh and the Royal (Dick) Veterinary College, whereby the degrees of B.Sc. and D.Sc. in veterinary medicine will be awarded. The scheme, which awaits the approval of the Privy Council, provides for one year of study to be spent at the University and four academic years at the Veterinary College.—*Lancet.*

Renewal of Mr. Trigger's Mayoralty.

The Newcastle Town Council having extended to the present Mayor (Mr. R. C. Trigger) a unanimous and enthusiastic invitation to fill the office for a second year, we are pleased to report that his Worship has accepted the invitation. Mr. Trigger has fulfilled the duties of the Mayoral office with dignity and with a devotion that has meant much personal sacrifice. The responsibilities of the office have also been discharged with judgment and courage, and the extreme popularity of Mr. Trigger's Mayoralty is evidenced by the unanimity of the Council, and even more strikingly by a petition presented to his Worship prior to the announcement of his decision. The deputation who presented the petition was introduced by the High Constable (Mr. A. G. Leighton), and consisted of the rector (the Rev. J. W. Dunne), the Rev. J. Clavin (Roman Catholic), Dr. R. H. Dickson, Mr. A. Mandley, J.P., and Mr. H. White. The petition they presented expressed entire approval of Mr. Trigger's fulfilment of the office of Mayor, and urged his acceptance of the office again. The signatories, who numbered 62, were representative in a remarkable degree of the most influential inhabitants of the town, including representatives of all religious denominations, the professions, and the trade of the borough. In the face of that request his Worship felt that a refusal of the invitation was hardly possible. It is specially opportune and appropriate that the annual show of the Staffordshire Agricultural Society will be held at Newcastle during Mr. Trigger's second year of Mayoralty.—*Staffordshire Advertiser.*

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Oct. 13.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. W. S. Anthony to be Maj. Dated Oct. 14.

Eight oxen and a dozen pigs were roasted whole on spits in front of fireplaces erected in the streets of Stratford-on-Avon last week, at the annual mop-fair, which dates back to very early times—probably to Richard I., who gave Stratford its first market charter.

Mr. JOSEPH P. RAILTON, M.R.C.V.S., is this year Vice-President of the Builth Wells Horse-Shoeing Society, and was donor of the First Prize at the recent competition.

OBITUARY.

GRAY.—On the 15th inst., Alfred Gray, The Wantz, Dagenham, Essex, youngest son of the late Henry Gray, The Lodge, Barking, and father of Henry Gray, M.R.C.V.S., in his 83rd year.

Memorial to Mr. G. Stewart.

The burial place of a worthy citizen of Rothiemay, Mr. George Stewart, v.s., has hitherto remained unmarked by any memorial stone, but this omission has now been made good by the kind liberality of Mr. Lipp, Haddoch. Mr. Stewart in his day was a noted veterinary surgeon, and his practice extended over a wide district, including all the neighbouring parishes. He was trained to his profession in the Dick Veterinary College under Professor Dick himself, and he often spoke of his famous teacher. Perhaps his claim to be remembered rests chiefly on the advice he gave when cattle plague was introduced into our country from Russia in 1865. The dreaded disease had been brought into Huntly by four calves from the south. The question how to deal with it was being discussed by the Huntly farmers when Mr. Stewart advised that it should be stamped out with the pole-axe. The Aberdeen authorities, and later the Government, adopted this advice, and thereafter the disease was gradually overcome.

In addition to his veterinary work Mr. Stewart was something of a doctor, and dislocations, broken bones, and other ailments were brought to him for treatment. Over and above all, he had studied human nature, and the penetrating eye, set in a strong countenance, made him as successful in dealing with men as his veterinary knowledge did in curing animals.

The memorial erected by Mr. Lipp bears the following inscription:—"In memory of George Stewart, v.s., who died at Milltown of Rothiemay on the 21st August, 1874, aged 56 years. One of the ablest veterinary surgeons of his day, he averted a great disaster to the agricultural community by his prompt action in connection with the outbreak of rinderpest in the year 1865. Erected in remembrance of his valued services."—*Aberdeen Free Press*.

The Late Mr. Lees.

Mr. Robert Lees, M.R.C.V.S., Lagg, Ayr (notice of whose death appeared in our issue of last week), was one of the most outstanding personalities among the farmers of the western shire. "Lagg" was a splendid example of the resolute Scot who does not understand the meaning of the word "beaten." He was born in Tarbolton parish, and practised for a time as a veterinary surgeon, but that occupation was a bit slow and one-sided for him, and he embarked on farming on "the shore." To say that he excelled as a farmer would be to speak the language of irresponsible courtesy. His was too eager a spirit to take account of the many details which go to make up successful farming, and Mr. Lees was too fond of action and excitement to settle down to that sort of existence. He became an enthusiastic breeder of Blackface tups, and gave himself to the task with all the energy of a singularly eager nature. He acquired high distinction in the business, and bred some notable rams by which modern Blackface history has been moulded. Mr. Lees was a warm-hearted Scot, with the traditional ambition of the best of his race to give his family a first-rate education, and so let them start in the world with at least the indispensable capital of character and intelligence. How well his children—both boys and girls—responded to their father's ambitions is known to all who are acquainted with the family. Alike in Ayr Academy and at the University the Lagg boys gave a splendid account of themselves,

and in their own departments the girls were not behind. All are acquainting themselves well in the learned professions which they adorn, and cherish a deep regard for the rough and ready eager Scot who did everything a parent could do to give them a good start in the race. That our deceased friend was pardonably proud of his family we all know, and none grudged him this best reward of a parent's toils. We shall miss "Lagg." He did not know how to take things easy. It was obvious to many that he had recently lost somewhat of his old buoyancy of spirit, and at Lanark ram sale a month ago he turned seriously ill, and had to go home. He rallied a little, and was out and about—few who met him during these last weeks realising how much he suffered.—*The Scottish Farmer*.

COLLEGE CREST APPEAL CASE.

Sir,

Being in doubt as to whether the bulk of the profession are acquainted with the facts of this case I appeal to you through the medium of your valuable journal to give the matter that amount of publicity which the case assuredly deserves.

I daresay quite two-thirds of the profession have been using the crest on their professional notepaper for a great number of years, and rightly so. The late Inland Revenue recognised that right. Since their disappearance the various County Councils, ever ready to increase their revenue, have zealously interested themselves in this matter in order to penalise every member who uses the crest.

The question is, Have we a right to use the crest without a licence? I maintain that we have that right, not only because the annual fee of a guinea is regularly paid by the Royal College of Veterinary Surgeons, but because the crest appears on the face of our diplomas, has been sanctioned so long, and is in no wise to be considered analogous with the use of a family crest and coat of arms. To my way of thinking the County Council have no right to interfere and tax our members who have used the crest by custom. It must be patent to all that it must be of inestimable value to the numerous County Councils to be allowed not only to charge the Royal College of Veterinary Surgeons the usual fee but also to inflict payment upon each member who persists in using it. I believe a number of practitioners have paid a small penalty and discontinued the user rather than face legal proceedings. On principle I refused to do this, and was accordingly proceeded against by summons. The case was heard at Bow Street Police Court and dismissed by the learned Magistrate, Mr. Curtis Bennett, who allowed me three guineas costs. An appeal was afterwards lodged, and a case has been stated by the Magistrate.

I am willing to fight the case right through, and the matter will be settled once and for all, but in fairness to me I really think the profession should rise to the occasion and assist me pecuniarily to meet all costs should the magistrate's decision be reversed. Prof. Woodruff has been particularly interested in the matter, and it is owing to his unflagging energy and kindness that a sum of £27 has been collected. Little time is to be lost now, for I hear that the appeal stands 30th on the list.

I venture to hope that there will be a more generous response to the fund during the next week. £27 is obviously inadequate to meet all costs, which at least cannot be far short of £100. Any members desirous of assisting me will naturally be assisting every member of the profession in resisting the local taxing authorities.

All donations may be sent to Prof. Woodruff, of the Royal Veterinary College, Camden Town.—Yours faithfully,

Wm. Kirk.

9, Bayley Street, Bedford Square, W.C.

October 18th.

Communications for the Editors to be addressed 20 Fulham Road, London, S.W.

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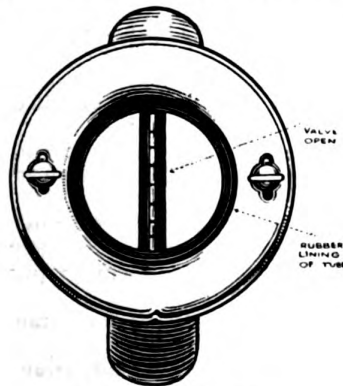
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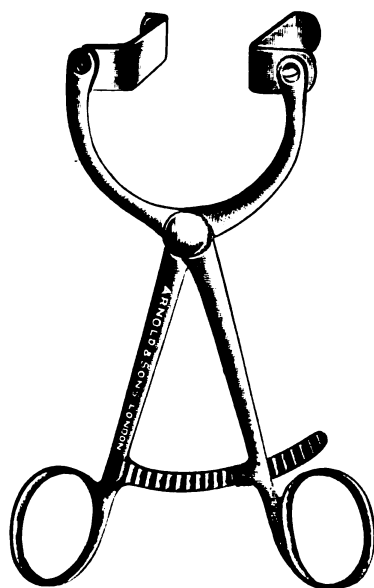
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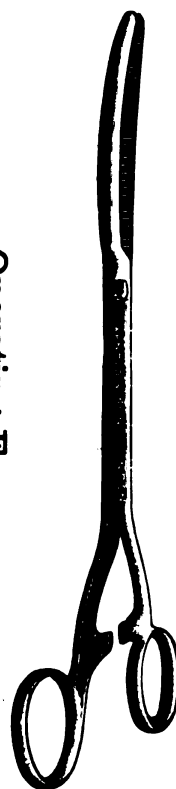


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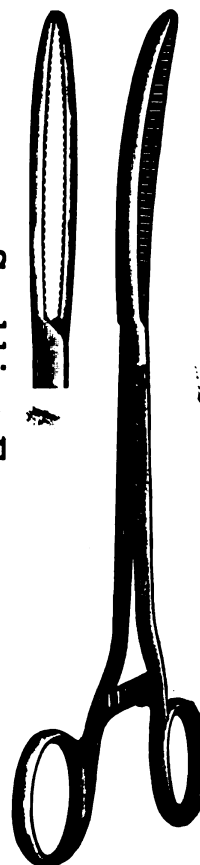


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OCTOBER 28, 1911.

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THE VETERINARY RECORD

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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BOVINE DISEASES.

Of late we have had quite an unusual number of articles and communications upon a class of subjects which have been neglected by British veterinary writers, viz., bovine diseases. Two good results have followed.

In the first place, we have learned something of a bovine skin disease which does not seem to have been hitherto described, but nevertheless appears to have been somewhat common recently in various parts of the United Kingdom—for there is little doubt that the descriptions given by Messrs. Hoare, Hills, Golding, and Airey relate to one and the same affection. It is a benign but by no means an unimportant affection, the pathology of which is still obscure; and its recent recognition by clinicians is a distinct addition to our professional knowledge.

In the second place, we have had several comprehensive articles by different practitioners upon the much wider and more important question of bovine digestive disorders. These also, in the gross, will well repay perusal and re-perusal. They mark no great advance, but they stimulate independent thinking; and they illustrate a truth which some members scarcely yet fully appreciate. They show how wide and complex a field of study bovine digestive disorders present, and how little is certainly known regarding many of its problems. Very little of note has been written upon the question by our countrymen, and the result—especially when we consider the every-day importance of the subject to the country practitioner—is not creditable to us as a profession. Broadly it may be said that the sporadic diseases of the bovine omasum, abomasum, and intestines, as regards their pathology, diagnosis, and therapeutics alike, are still practically unexplored ground. Probably their clinical differentiation, like that of the equine colics, will always form very debateable ground; but it is quite certain that we might learn more of the diseases themselves than has been learned yet.

We shall only do so in one way—by careful clinical observation, checked whenever possible by post-mortem examination. The recent articles made it clear that some practitioners are working at the question on these lines as opportunity offers, and their work should stimulate others to follow their example. In so wide and obscure a subject, advance is most likely to come from a comparison of the experience of many men, and country practitioners might well take up the study of bovine digestive disorders. The whole subject is a more important branch of country veterinary practice than it ever has been before; it is still one of the least understood, and it is one of the few that can only become better understood by the observations of country practitioners.

CONGENITAL DIAPHRAGMATIC HERNIA.

By W. R. DAVIS, M.R.C.V.S., Enfield.

In May last I was sent for to attend a valuable thoroughbred foal, three weeks old, which had been previously quite healthy but on this morning, after being turned out with its dam in a paddock, was found standing by itself and breathing quickly and with difficulty.

With its dam it was immediately put in a box. I found the temperature to be 103, and the pulse not greatly disturbed. The nostrils were somewhat dilated, and the breathing, though faster than normal, was not very rapid, it was, however, what might be characterised as disordered. The ribs showed up very prominently, and the abdominal walls rose and fell in an irregular manner, in fact one would have said, a broken-winded foal. On auscultating the chest I could hear no respiratory murmurs whatever on the left side, but in their place sounds that were distinctly intestinal. On the right side loud vesicular murmurs could be heard, but here, too, intestinal rumblings at times quite obscured them. The foal had emptied the mare's bag and seemed quite cheerful.

I told the stud manager that the case was peculiar, and that, though it could hardly be the case, it seemed to me that the bowels were in the chest among the lungs. I advised him to report the case as congestion of the lungs, and to state that the foal was in a serious condition.

The mare and foal were kept in the box for three weeks, the little patient emptying the bag and keeping quite lively; temperature and heart beat being about normal, but the respirations continuing much the same. There was no cough, and no discharge from the nose. When I coughed the foal I got a distinctly broken-winded cough from him.

One day the mare was given tares, of which the foal also partook, this gave rise to indigestion and diarrhoea, followed by a pronounced attack of dyspnoea.

All this time on auscultating the chest the intestinal rumblings could be heard, particularly on the left side, and respiratory sounds only on the right side. I now had the mare and foal turned out to grass for a few hours in the early morning. The foal galloped about, but quickly came to a standstill, legs apart, nostrils dilated, flanks heaving. After a while he recovered and gravely followed his mother.

At this time I came to the conclusion that a portion of the lung had remained in a state of foetal collapse and that there was emphysema of the rest of the lung, and advised that the foal should be

put away as never likely to make a racehorse. The owner wrote to say that if that was my opinion we had better destroy the foal.

A few days after these instructions were received, and while we hesitated about carrying them out, our patient had a violent attack of colic and died.

Post-mortem. On removing the ribs a mass of the small intestines, dark-red and filled with bloody fluid, was found in the chest cavity, where also a portion of the colon and most of the cæcum together with the left lobe of the liver were lying. They had gained access to this cavity through a large orifice in the diaphragm, low down and towards the left side, the hiatus being due to a want of soldering between the phrenic and muscular parts of this curtain.

The anterior part of the lung was collapsed, the posterior part emphysematous, while the right lung, though anæmic, seemed fairly normal. Death was due to strangulation of the intestines.

VETERINARY REPORT ON THE FRENCH OPERATIONS IN MOROCCO FOR THE RELIEF OF FEZ, 1911.

La Semaine Vétérinaire for the 15th July, publishes the following interesting account of the working of the Veterinary Services in Morocco, by M. le Vétérinaire en premier Fraimbault.

"There was no proper organisation as in the former Colonial Expeditions to Madagascar and China, a Director of the Veterinary Service not having been appointed. The equipment of the Columns with veterinary medicines and stores, which were very limited, was entrusted to 1st Class Veterinary Surgeon Belleval, the S.V.O. in the Shawia district, and Director of the Casablanca garrison infirmary. He had also to post to the different columns the Veterinary Officers, according to their length of service in the colony or the date of their landing in Morocco.

"All the Veterinary Officers arriving from France in charge of animals were provided with the regulation canteen, also the following units, Battery, Squadron, Senegal battalion and the Mounted company of the Colonial Infantry, were similarly equipped.

"Those Veterinary Officers who came out unattached to units had, on their departure to the front, to provide themselves with veterinary chests, which were generally cut down, and some indispensable instruments omitted, on account of difficulties which were experienced in obtaining transport. Some units and small detachments which had requisitioned veterinary stores were provided by M. Belleval on their departure from Casablanca, with certain compounded drugs for the treatment of those diseases which occur most frequently in the field.

"Owing to the large number of injuries of every kind, of which the most severe were caused by pack saddles, the supply of veterinary stores was soon exhausted, and hardly any remained when Fez was reached. Later, on the organization of the Supply Services, 1st Class Veterinary Surgeon Guenot was

able to send forward certain veterinary stores from Mehedia, the supply base, and it was also possible to purchase certain stores at Fez at a reasonable price.

"While the Medical Service has appeared to me to be perfectly organised throughout this Campaign, the Veterinary Service has, in comparison, been deficient in personnel from the beginning, and the supply of medicines and dressings has been very insufficient. Until the columns set out to the relief of Fez, they had but two 2nd Class Veterinary Officers, with only a Veterinary Cantine for the most important units. Each of the Veterinary Officers, accompanying a column have had a platform cart, mule, or camel placed at his disposal for the transport of the necessary equipment.

"Three Veterinary Officers accompanied the Columns on the march to Fez; 2nd Class Veterinary Surgeon Charvot with Brulard's Column, with which he remained throughout the whole Campaign; 1st Class Veterinary Surgeon Fraimbault and 2nd Class Veterinary Surgeon Millet with Dalbiez's Column.

"Some days later, Assistant Veterinary Surgeons Pflieger and Carpentier arrived at Fez with Gouraud's Column. The Veterinary Service was now organised as follows:

"There were three Senior Veterinary Officers. At Casablanca, the S.V.O. of the Army, M. Belleval. At Mehedia, the S.V.O. of Transport, 1st Class V.S. Guenot, who managed a depot of injured animals and supplied the Veterinary Officers at the front with stores. At Fez, the S.V.O. at the front, 1st Class V.S. Fraimbault, with Assistant V.S. Pflieger attached, in charge of an important depot of injured animals.

"The three Columns, Dalbiez's, Brulard's and Gouraud's based on Fez, had each one or two Veterinary Officers, Rousselot, Colette, Carpentier, and Chalvat. In addition, two or three other Veterinary officers (Germa and Monnier) were distributed along the Line of Communication, making altogether a total of twelve, of whom four were 1st Class Veterinary Surgeons, the number of Veterinary Officers attached to the disembarking units.

"The columns were made up of all branches of the Service, with an important convoy of pack mules from Algeria and Camelo. They returned periodically to Fez with a large number of casualties amongst the animals. The injuries, almost all caused by pack saddles, were usually very severe, the result of badly balanced loads, and overloaded animals remaining too long under the saddle. After operations lasting only 30 days, it was not unusual to see enormous fistulous withers and large sloughing areas of skin exposing three or four ribs, but these wounds, which were in every case covered with dust, healed quickly in spite of their severity.

The depot of sick animals at Fez.—This depot was attached to the transport and possessed no equipment. The sick, to the number of nearly 200, were placed on picket lines under the supervision of a quarter-master, in the midst of a camp situated about 1½ miles from Fez. They were exposed to the full glare of the sun, and tormented by flies,

which did not give them a moment's peace, and caused them to rub and roll in order to obtain relief. The majority were suffering from pack saddle galls, necessitating surgical interference, others from gunshot wounds. The remaining animals under treatment were chiefly large Artillery horses, exhausted by fatigue, which were almost impossible to resuscitate, owing to the lack of forage, hay or straw.

"The professional work began each morning at 6 o'clock and was never finished before 10 or 11, this, owing to the great heat, was very trying.

"The animals of the Columns, which were given a ration of inferior barley on the march, were turned into fields of standing barley or wheat at the halting places on account of the difficulty of transporting the forage.

"During the rapid march of the columns on Fez, all the animals displayed considerable powers of endurance. The relieving troops accomplished 10 marches of about 25 miles each, without a day's halt between Casablanca and Fez. It is true that it was at a favourable season, the heat being quite bearable, the nights cool, and the country flat except in the neighbourhood of Fez; all the rivers were fordable except the one at Rabat, and not a drop of rain fell. Nevertheless, since it was necessary to march quickly and to arrive at all costs, some losses from overwork resulted, and a certain number of exhausted mules, which were unable to keep up, had to be destroyed.

"In this rapid march upon Fez, the camels had no opportunity of grazing, and as they were given no grain rations, wastage quickly began, and there were considerable losses amongst them.

"Blood examinations, made by Hormus, showed no evidence of Trypanosomes or Piroplasms, which might have been expected from the numerous dull flies (taons) attached to the thighs, and from the progress of the cases, which at first exhibited a high temperature, followed by emaciation, want of appetite, and, towards the end, diarrhoea.

"Up to the present time no contagious disease has been recognised in the columns, nevertheless rigid sanitary measures have been ordered to safeguard our units from glanders, which exists amongst all the tabors of the Moroccan Cavalry. This affection, which has been thoroughly studied since our arrival at Fez, had never been seen in the district of Shawia—Has it been introduced by some one? It has been demonstrated by post-mortem examinations, mallein injections, and the inoculations of a donkey foal, that it is really glanders, and not an affection simulating it which is only slightly contagious, and would consequently be only relatively dangerous to our animals.

"The tabors of the Moroccan Cavalry are seriously infected, and it has been necessary to destroy a certain number of horses.

Sanitary inspections, extending over some days, have enabled us to isolate the doubtful cases, but it is only by malleining all the animals that it will be possible to eradicate this formidable disease, which is a serious danger to our units, and prevents the Moroccan Cavalry being more actively employed with our columns.

"The Army of Morocco consists of a certain number of tabors of Cavalry, Infantry, and Artillery, with a detachment of Engineers; the tabor of Cavalry corresponds to a squadron, and that of Infantry to a battalion. The total strength of horses and mules at Fez is over 1200. When we arrived at Fez all the tabors were encamped near the town; since then some have been moved to certain important centres.

The Moroccan Army, which is commanded by French Officers and non-commissioned officers, is to be reorganised and increased. Provision has been made for three Veterinary officers, of whom one is to be a Veterinary Officer of the 1st Class. This number will not be sufficient, on account of the disease which has spread throughout the Cavalry." — (*Revue Générale de Médecine Vétérinaire*, 15th Sept., 1911).

Military readers will find interesting notes of the operations which were carried out during the period covered by the above report in the Journals of the Royal United Service Institute for May, June, July, and August, 1911.

L. J. BLENKINSOP, Colonel A.V. Service.

REPORT OF THE ARMY VETERINARY DEPARTMENT WITH THE SUAKIN FIELD FORCE, FROM THE 14TH MARCH TO THE 14TH MAY 1885.

From the Principal Veterinary Surgeon in Egypt to the Principal Veterinary Surgeon, War Office, London.

Head-Quarters, Cairo, 25th June, 1885.

Sir,—I have the honour to forward the following report on the working of the Army Veterinary Department with the Suakin Field Force, during the recent military operations in the Eastern Soudan, from the 14th March to the 14th May, 1885. These dates may be considered as representing the commencement and termination of the campaign.

You are aware that, owing to the great strain on the Department, caused by the requirements in India, Egypt, and the Cape, the number of Army veterinary surgeons employed with the expedition was out of all proportion to the complement laid down in the Veterinary Regulations; and that, at no period of the campaign had I more than nine executive officers for duty with upwards of 13,000 animals. I do not include the veterinary surgeon of the Australian Contingent, whose duties were entirely confined to the horses of the New South Wales Artillery.

The promptness with which you responded to the application for more officers, which I caused to be telegraphed from Cairo on the 27th February, 1885, did much to relieve the strain; but had the campaign been prolonged, it would have been necessary to have considerably augmented the department.

When it is taken into consideration that each executive veterinary surgeon was more or less responsible for the health and efficiency of many hundreds, and, in some cases, thousands of animals; that his charges were frequently scattered over miles of ground; that the nature of his duties required him to be in the saddle for many hours daily, exposed to the tropical heat of an unhealthy climate; that in many cases he had to work with an insufficient staff, and often under great disadvantages, the unduly heavy and harassing nature of his duties will be understood, and the reason afforded why the health of so many of our officers broke down.

Notwithstanding these facts, the veterinary duties were zealously and efficiently performed; and it is satisfactory to remark that not a single complaint from any of the various officers commanding mounted troops or transport corps, was received by me at any time during the campaign.

On assuming the administrative veterinary charge of the field force, and having made myself familiar with the organization of, as well as the distribution of the animals belonging or attached to, the various regiments or corps, I proceeded to make as fair a division as possible of the executive duties, taking into consideration the special qualifications of each individual officer.

A veterinary surgeon was appointed as sanitary officer on Quarantine Island, for the purpose of inspecting all ships arriving with Government animals, and examining all animals immediately on landing, with the view of preventing the introduction of contagious diseases. The duty was efficiently performed, in the first place, by Veterinary Surgeon Sharp, and subsequently by Veterinary Surgeon (First Class) Gillard.

In order to facilitate the treatment of the more serious cases of sickness and lameness amongst the horses, and for the purpose of keeping the mounted troops at the front as effective as possible, I caused a veterinary hospital to be established at the base, under Veterinary Surgeon Aitkin, assisted by a Farrier Quarter-Master-Serjeant and two shoeing-smiths. Temporary stabling for 80 horses was erected, and adequate arrangements were made for shoeing. I consider the work done at the Base Hospital to have been highly satisfactory. Not only were the stables nearly always full, but numbers of animals under treatment had to be picketed in the lines.

In consequence of the skill, care, and attention paid to the cases by Veterinary Surgeon Aitkin and his assistants, many valuable animals were saved, which, under less favourable circumstances, would probably have been lost to the service.

Owing to the arduous nature of the veterinary duties, it was impossible to expect the case books to be kept up and returns furnished, as on home service. I, therefore, directed that the cases should be entered in the Register only, and none but important ones recorded; also, that half-monthly returns should be rendered, with the diseases grouped. This system, I found, relieved the veterinary officers of much unnecessary labour, and worked very satisfactorily. Each officer was, of course, responsible for the correctness of his statistical information.

With the view of detecting and suppressing contagious diseases, careful sanitary inspections of all animals, lines, etc., were periodically and systematically made, and directions given for isolating, and placing under close observation, cases of a suspicious nature.

On account of the presence of contagious skin disease amongst the transport camels landed for the use of the expedition, and the necessity for segregating the animals affected, a lazaretto zereba was formed on the 18th March on a convenient site, affording sufficient protection from the enemy, for the reception of contagious cases. An adequate staff was appointed under the supervision of Veterinary Surgeon (First Class) Rayment, and Farrier Quarter-Master-Serjeant Smith, of the Commissariat and Transport Corps, was placed in immediate charge. The services of this non-commissioned officer are well worthy of special consideration, for his duties were extremely arduous, and carried out in a highly praiseworthy manner.

The result of the establishment of this zereba has been most satisfactory. Upwards of seven hundred cases were admitted to treatment up to the 14th April, when, owing to the precautions taken, parasitic skin disease became practically stamped out. On this date

arrangements were made for changing the ground, and converting the zereba into a general sick camel infirmary, which worked well up to the termination of the campaign.

A veterinary store was established under the supervision of Veterinary Surgeon (First Class) Gillard, at the base, immediately on receipt of the medicines and surgical appliances from England. A properly organised system of accounts was adopted, and arrangements were made for the speedy transmission of medicines on requisitions to veterinary surgeons at the front. The duties connected with this establishment were very efficiently carried out by the veterinary officer in charge.

In addition to the veterinary stores from England a number of small chests termed "unit cases," were forwarded by my direction from the veterinary stores at Cairo, for use during the campaign. Each of these cases contained an assortment of camel medicines for internal and external use, and they were sufficiently portable for either camel or mule transport.

The veterinary field wallets sent out for use with the expedition are, in my opinion, very complete, and deserve to be ranked amongst the most valuable of the veterinary appliances provided for active service. The military operations were, however, not of sufficiently long duration to give them an extended trial; but those which were issued by my direction to the farriers of mounted corps were of great use on several occasions, when the larger field chests were not available. For flying columns and small detached mounted parties, they are invaluable.

A Remount Depot was established at the base, under the command of Major Anstruther, D.A.A.G., and subsequently under Major Lloyd, 20th Hussars, assisted by Veterinary Surgeon Aitkin. The arrangements were very complete, and the working of this establishment was satisfactorily carried out.

The only actual remounts received was a batch of 145 horses and ponies which arrived from India on the 30th March for the Guards' Mounted Infantry. The remainder of the animals at this depot were principally transfers from regiments and corps.

The shoeing was conducted by the base hospital farriers, and the official books were supplied from the stock forwarded by you for my use.

An advanced Veterinary Hospital was formed at Handoub, about ten miles from Suakin, on the 18th April, under the supervision of Veterinary Surgeon (First Class) Gladstone, assisted by Veterinary Surgeon Betser, who also had charge of the Lines of Communication to Tambuk. An adequate supply of medicines, etc., was forwarded from Suakin, and all the necessary arrangements made for the reception and treatment of animals at the station, and if necessary from the advanced posts of Otao and Tambuk.

The duties of this establishment were carried out very efficiently.

The horses and mules were kept fairly well shod up during the campaign, and the shoeing was on the whole, good. The system of "cold fitting" was, on my recommendation, generally adopted, and the new pattern machine-made shoes and nails were used, as far as was practicable, especially amongst the lighter horses. I believe this is the first trial on active service. Their principal advantages appear to be:—

1. The ease and celerity with which they can be fitted cold.
2. The superior quality of the iron.
3. Their lightness, durability and finish.
4. The fact that the heavy field forge, with the fuel and plant for shoe-making, can be dispensed with; the small pack forge being merely necessary in the few cases where heat is required.

The immense advantages of the latter, especially in a campaign in the desert, where wheel transport is almost impossible, can be readily understood.

The staff of farriers and shoeing-smiths with the field force was sufficient for all requirements, but, with the exception of the eight shoeing-smiths who arrived from England under Farrier Quarter-Master-Serjeant Kemp, 20th Hussars, on 17th March, and whose services were at once utilised, there was practically no reserve to fall back upon in the event of sickness or other casualties occurring. Had the military operations been prolonged, the absence of a sufficient reserve of farriers might have been a matter of serious moment.

The sanitary arrangements of the camps and zerebas, from a veterinary point of view, were as good as were possible under the circumstances. Constant personal attention was paid both by myself and the veterinary officers under my supervision, to this important feature, and any suggestions made were promptly carried out.

The forage issued for the use of the troops was fairly good in quality, and sufficient in quantity. English hay and oats or compressed forage, were principally supplied for the use of the English horses, except during the latter part of the campaign, when a proportion of Indian hay was substituted. In many cases the compressed forage was found to be musty, and some of the bales I examined were mouldy. This, however, was the exception.

The horses of the British Cavalry Brigade were fed for some six weeks upon Graves' grain cake, together with either the hay cake or baled hay. All of this grain cake that I examined was in good condition, and I consider it to be an excellent form of portable forage for service. Both this and the hay cake should be used with the improved nosebag. The native horses and mules were fed on barley and chopped straw.

The Indian contingent made their own forage arrangements; the grain, hay, and other classes of food were apparently of good quality.

The tiben, beans, and barley supplied for the use of the camels were excellent. I experienced some little difficulty at first in getting the barley crushed. The beans were all split. Bran was supplied as required.

It was impossible to procure green food for the sick horses and mules, but a sufficient quantity of young *mimosa* (camel thorn) was obtained for the sick camels, and was cut and brought in as required. Other edible shrubs were also utilised.

Arrangements were made for grazing these animals in troops whenever the military situation would admit of it.

The arrangements for watering the animals, both at Suakin and at the advanced posts, were well conducted. The water was sufficient in quantity, and on the whole, of fairly good quality; but that in some of the wells was slightly brackish. The water troughs were frequently inspected, and any suggestions with reference to sanitary improvements met with immediate attention.

The average number of horses, mules, camels, and bullocks, actually employed with the Field Force from the 14th March to 14th May, 1885, is as under:

Horses (including charges)	2604
Mules	3232
Camels	6650
Bullocks	300
Total	12,786

This total does not include the ponies belonging to officers, natives, etc., which would probably bring the average number up to about 13,000.

As regards the quality of the English horses belonging to the British Cavalry Brigade, Royal Horse Artillery, Royal Engineers, and Transport Companies, very little need be said, as they were fair specimens of the class of animal seen in each particular arm on home service.

With respect to their suitability for campaigning in a climate like that of the Eastern Soudan, under the peculiar conditions of desert warfare, I am of opinion that had the military operations been extended, and continued through the summer months, the sickness and mortality amongst the English horses would have been very great. The Royal Horse Artillery, and draught animals generally, kept their condition very well the whole time, and they were comparatively free from sickness; but except in two or three instances, such as the advance to Tamai, they were never subjected to severe exertion, and being at or near the base, were always within reach of suitable food, shelter from the sun for their sick, and good water. The British Cavalry, on the other hand, were more or less continually on the move, especially the detachments at the advanced posts, and the result was that they lost condition rapidly, many of them becoming very emaciated. The percentage of sickness was considerable, and an unusual number of cases of sore back occurred amongst the horses of both Cavalry regiments.

Amongst the horses may be included Egyptians, Indians, "Walers," and a few Syrians and Russians.

The first class consisted of useful and generally well-bred animals, principally purchased in Lower Egypt for the use of Mounted Infantry, and were, in my opinion, extremely suitable for the class of mounted work required in desert warfare. These horses were nearly all entire, as a rule about 14 to 14.3 hands high, and sufficiently strong and hardy to perform the work required of them. They certainly endured the hardships and climatic influences to which they were exposed remarkably well.

The Indian native-bred horses and "Walers" used by the 9th Bengal Cavalry, appeared to do their work without materially suffering in condition, although they were somewhat "fine drawn" at the end of the campaign.

The remarks with reference to the Egyptian horses apply equally to the few Syrians employed. The Russian horses were fortunately very few in number. They were, as a class, coarse, under-bred and comparatively useless animals.

The transport mules were procured from various districts in Lower Egypt, Cyprus, Gibraltar, Malta, and India, and require no special classification; for, with the exception of some unfortunate purchases—animals either too young, or of extreme age—they were strong, hardy, and useful for either draught or pack work, and, as a rule, they kept their condition throughout. I would make special mention of the excellence of the mules employed with the Royal Artillery. I am very strongly impressed with the superiority of mule over camel transport, in any country where even a moderate water supply can be ensured.

The camels purchased for service with the Suakin Field Force may be briefly divided into three classes:

1. The Delta camels purchased in the various districts of Lower Egypt.
2. The desert camels from Berbera and Aden.
3. The Indian camels.

I regret to say that my remarks with reference to the first-class must be anything but satisfactory. A very large proportion of the camels purchased in Lower Egypt were inferior in quality, deficient in size and power, either too young, too old, or otherwise physically unfit, and very many were suffering from (mange) and bad sore backs, on arrival at Suakin. The condition of these animals may in some measure be accounted for by the fact that a considerable number of them were purchased without the advice and assistance of a competent veterinary surgeon. The Delta camel in its own country is, as a rule, freely and regularly watered, and at certain seasons is well supplied with green food. Consequently, at its best, this animal cannot be considered as being so well suited to the requirements of a

campaign in a country like that of the Eastern Soudan, as the ordinary desert camel.

The sickness and mortality amongst the camels from Lower Egypt considerably exceeded that of any other class.

2. The Berbera and Aden camels are smaller, lighter and more active animals than those just referred to, and although they are unable to carry the same amount of weight, this is, in some measure, compensated for by their increased powers of endurance. This is an important feature in a country where both water and green food are scarce. The small fawn-coloured Berbera camels with the Field Force, did their work satisfactorily, and appeared to be well adapted for campaigning in the desert.

3. Indian camels. The transport camels imported from India were strong, useful, healthy-looking animals, and appeared to have been selected with care. They were not so active as the desert camels, but were able to carry more weight. They were much more hardy than the Egyptian camels, and suffered from sickness in a less degree.

Five hundred Sowari camels were procured from India, for the formation of a riding camel corps. In point of conformation and general physique, these animals were splendid specimens of their class, and were able to carry their double loads with the greatest ease, at a very fair pace.

Bullock transport was employed only by the Indian Contingent at the base operations, and about 300 "byles" were used for this purpose, and were worked in light country carts. These animals were sound, useful beasts, of a good class, and did the work they were called upon to perform with ease; but this class of animal is not suitable for either wheel or pack work in the desert, where scarcity of water, absence of green food, the nature of the country, etc., are all opposed to the success of bullock transport.

In submitting the following remark on the working of the Veterinary Department of the Indian Contingent, I beg to observe that its undoubted success was, in my opinion, in a great measure due to the favourable conditions of the military operations, which allowed of sufficient concentration of the mounted troops and transport animals, to enable a zealous and energetic Veterinary

Officer to make daily inspections, and to have his large and important charge under his immediate control: and was not due to a system which, under less favourable circumstances, might have resulted in failure.

The following return of animals submitted on the 7th April, represents about the average number employed with the Indian Contingent:—

Horses and ponies	828
Mules	1896
Bullocks	302
Camels	6
Total	3032

It will be noticed that the value of mule transport was fully recognised by the Indian authorities.

Veterinary Surgeon (First Class) Rayment, was in sole charge of this force, assisted by the following establishment of native farriers, etc.:—

Chief salootrie	1
Assistant Salootries	14
Nalbunds	19

In addition to this staff, a furrier sergeant was employed as veterinary store keeper and dispenser. The whole of the medicines, stores, instruments, shoes, nails, etc., were supplied by the Indian Government, and were ample for all requirements. Each squadron of Bengal Cavalry, and each transport salootrie, was provided with two field medicine chests complete, in addition to the regimental chest. Mr. Rayment had also a six months' supply of reserve medicines in store.

I consider that the veterinary duties connected with the Indian Contingent were very efficiently performed.

The horses of the New South Wales Artillery were under the immediate veterinary charge of Mr. Willows, a colonial veterinary surgeon, who was amply provided with medicines, stores, shoes, nails, and all the necessary appliances. The animals were mostly strong, useful horses, but, as a rule, were deficient in quality.

The following table shows the number of cases admitted to treatment during the campaign, together with the result, calculated, for the sake of convenience, up to the 31st instead of the 14th May, 1885:—

Description of animal.	No. of cases admitted.	No. of cases discharged.	Cured.	Relieved.	Incurable.	Died.	Destroyed.	Remaining.
Horses	648	595	332	188	3	40	32	53
Mules	724	583	468	4	...	86	25	141
Camels	1872	1852	947	440	...	282	183	20
Bullocks	85	79	76	...	...	1	2	6
Total	3329	3109	1823	632	3	409	242	220

The unusual number of cases shown in the column "relieved," is due to the fact that many of the animals under treatment for slight injuries were embarked on the reduction of the Field Force, before being quite fit to be discharged "cured."

Amongst the cases shown in the column "died," are included 23 horses and 78 mules killed at Hasheen and in the action at the zereba on the 22nd March. The loss of camels at the latter engagement, estimated at between 800 to 900, is not included. Two horses killed at Tamai on the 3rd April, were accounted for amongst the deaths. The animals shown as "destroyed" were all

affected with disease, or were suffering from accidents of an incurable nature.

Four cases of glanders and one of farcy occurred amongst the horses of the 5th Lancers during the campaign; but owing to the exertion of the executive Veterinary Officers, and to the prompt action taken by the military authorities in carrying out the urgent sanitary measures suggested, the disease was not allowed to spread. No other description of contagious malady occurred amongst the horses during the campaign.

Diseases of the digestive organs were few, and readily yielded to treatment. Respiratory affections were more

frequent, but not sufficiently so as to call for special remarks. Bilious and climatic fevers were prevalent, especially amongst the English horses; but as these cases were promptly detected and treated, the mortality was very small. Wounds, contusions, and lameness from various causes, were not unusually frequent, and were, with the exception of gunshot injuries, of the ordinary character generally met with. Gunshot wounds of various degrees of severity, were more or less numerous during each action, and received the prompt attention of the executive Veterinary Officers, both in the field and in hospital. Several successful operations were performed for the removal of bullets. A number of spear wounds also occurred and were successfully treated.

In a former portion of this report I referred to the numerous cases of sore back occurring amongst the horses of the Cavalry Brigade. Sixty-two cases in the 5th Lancers and 23 in the 20th Hussars, were admitted during the month of April. I consider that many of these might have been prevented, had the folded blanket been used instead of the numnah, which was not sufficient to prevent saddle pressure in those instances where muscular wasting occurred from loss of condition.

The cases occurring amongst the mules were comparatively less numerous than amongst the horses, and as they were generally of the same character, special comment is unnecessary.

A number of mules were hamstrung by the Arabs in action. Some of these cases recovered.

No disease of a contagious character was reported.

Scabies (mange) was very prevalent amongst the camels during the earlier portion of the campaign, and was of a highly contagious nature. The steps taken for the detection and suppression of this disease were fully explained in my remarks on the "Lazaretto Camel Zereba," in a former part of this report. The majority of the cases were successfully treated, and the affection eventually stamped out.

An outbreak of enzootic catarrhal fever of a severe form, occurred amongst the transport camels during the month of April, and many hundreds of animals were affected. In the treatment of this disease the energies of the veterinary surgeons in charge were severely taxed, and had it not been for the able assistance of some of the Indian Transport Officers commanding sections, who promptly superintended the carrying out of the various directions with reference to segregation, medicinal and dietetic treatment, watering and general hospital management, the successful termination and ultimate suppression of this disease might have been a much more difficult matter. Arrangements were made for boiling the food, which consisted principally of grain, bran, tibben, and green camel thorn.

Amongst general diseases may be enumerated respiratory and digestive diseases and non-contagious skin affections, exhaustion and simple fever, together with numerous severe wounds and injuries. Some of the latter were very extensive, and numbers of camels were rendered inefficient, owing to the culpable negligence on the part of camel drivers and others, in failing to report cases of sore backs and injuries until the wounds had assumed such serious proportions as to call for severe surgical operations. Many animals were thus rendered permanently unserviceable.

The diseases amongst the transport bullocks were of so simple a character, and the animals were so few in number, that special remark is unnecessary. No diseases of a contagious nature existed.

The necessary arrangements for the prompt treatment of gunshot and other wounds and injuries occurring in action were made, and each executive Veterinary Officer was amply provided with medicines and appliances for use on emergency. Mules or camels were provided for the transport of field medicine chests; and during the

latter part of the campaign, each farrier sergeant was supplied with one of the new veterinary field wallets.

With the view of increasing the efficiency of the Veterinary Department, and of the Service generally, in future campaigns, I beg briefly to submit the following recommendations for your consideration:

1. That arrangements for the formation of a reserve corps of farriers and shoeing-smiths should be made. This is a subject deserving of immediate attention. Casualties on Service from wounds, sickness, and other causes, the formation of new corps, and the establishment of hospitals and remount depots, all point to the urgent necessity which exists for the formation of a reserve staff of farriers. These men should be immediately under the supervision of the Senior Administrative Veterinary Surgeon.

2. That one or two horse ambulances be provided for service with each Army Corps taking the field.

3. That arrangements should be made for the despatch of veterinary medicines and stores, shoes, nails, pack-saddle forges, etc., sufficiently early to ensure their being at the seat of operations when required for use.

4. That a qualified Military Staff Clerk should be sent out with each Administrative Veterinary Officer, and that the necessary supply of official books, stationery, etc., should be embarked on board the same ship.

5. That each veterinary surgeon should be provided with a soldier-servant prior to embarkation.

6. That, if possible, no Veterinary Officer under 12 months' service be sent on a campaign.

7. That every mounted corps should be provided with the Veterinary History Sheets of its horses on embarkation. Considerable inconvenience was experienced during the military operations by these documents, in many cases, being left in England.

8. That a certain proportion of men per troop of Cavalry, battery of Royal Artillery, or Company of Commissariat and Transport Corps, should be thoroughly instructed in "cold shoeing," and that, when qualified, the names of those men should be registered, and their efficiency tested from time to time.

9. That no transport or other animals be purchased for service, without being previously inspected by an Officer of the Army Veterinary Department.

10. That arrangements should be made to supply the necessary material for temporary shelter from the sun, in the case of English horses being engaged on active service in a tropical climate. Poles, with mat or canvas screens, answer this purpose very well.

11. That blankets should be provided for all mounted troops, to take the place of numnahs on active service. However well a saddle may fit when the horse is in good condition, the protection of the numnah is insufficient to prevent its "coming down" upon the back, in cases where muscular wasting takes place as the result of the hardships consequent upon a campaign.

12. That in cases where camels are used with an army in the field, the services of experienced officers, such as those belonging to the Indian transport, should be engaged, and that none but qualified drivers should be employed.

The value of this suggestion was proved by the experience of the late campaign. The condition, health, and general efficiency of the animals belonging to corps commanded by officers well skilled in camel management, was most marked; and from personal observation I am convinced that this important subject is well worthy of the serious consideration of the authorities.

That the camel is a delicate and peculiarly constituted animal there can be no doubt; and we know that, in order to ensure efficiency and to avert serious loss to the public, the various details of dietetic management, distribution and arrangement of loads, inspection and fit-

ting of saddles, grooming, and other minor but important items, must be attended to and carried out under the personal observation and supervision of experienced officers.

In conclusion, I take this opportunity of expressing my sense of the cordial support and assistance received at all times, during the campaign, from the various military authorities, which so greatly facilitated the smooth working of the department.—I have, etc.,

W. B. WALTERS,

Principal Vety. Surgeon to the Forces in Egypt.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH.

The annual meeting was held in the Caledonian Station Hotel, Edinburgh, on Friday, October 13th, the President, Mr. William Robb, F.R.C.V.S., Glasgow, presiding. County and burgh local authorities in all parts of Scotland were represented, and there were also English representatives from Hull, Newcastle, Bradford, and Sheffield. Amongst others present were Captain Gilmour, M.P., and Prof. Gofton, of the Royal (Dick) Veterinary College.

PRESIDENTIAL ADDRESS.

WILLIAM ROBB, F.R.C.V.S., Glasgow.

It is my privilege as your President to introduce Prof. Delépine and Mr. John Lindsay to you, and I feel satisfied that I give utterance to your wishes when I tender to them a warm welcome, and a deep appreciation of the honour we are receiving by their addressing us today. It is not my intention to detain you by a long address, but, with your permission, I would like to address you for a few minutes on the position of meat inspection and meat inspectors in this country.

It is undoubtedly a fact that meat inspection is now on a much sounder basis than it was a few years ago, but I feel confident that no one present will say that our methods and regulations compare at all favourably with those of our Continental neighbours.

Take the varying conditions that exist in most counties. First of all, you have the large city with whole time inspectors, now, in many instances, under a veterinary officer. A few miles out you find the village butcher with a slaughterhouse behind his shop, and generally no inspection. Proceeding a few miles further on is a country town with a lay inspector, frequently under the supervision of a veterinary inspector who is not a whole-time officer.

Undoubtedly the ideal conditions are those of the large cities, where the inspectors are free from private practice and devote their whole time and attention to this special subject, the animals being slaughtered in public abattoirs. While it may be true that many splendid animals are dressed in private slaughterhouses, it is against the ideals of modern standards of meat inspection that private slaughterhouses should exist, with or without inspection.

As you are no doubt aware, foreign Governments have drafted regulations for the guidance of their meat inspectors, so that the standard will not vary in almost every town. Compare that with the chaotic condition of matters in this country. What are the regulations drawn up in this country for the guidance of meat inspectors? Nothing but the finding and recommendations of the 1907 Commission on Tuberculosis. These findings, remember, deal only with tuberculous carcasses, and no other affections or conditions. Now, let me ask you, are the recommendations of that Commission strictly adhered to by meat inspectors in this country?

In my opinion they are not, therefore is it not high time something was done in the way of drafting regulations, more in keeping with modern knowledge and opinion, dealing not only with tuberculous carcasses, but also with other diseases and conditions that render meat unfit for the food of man.

This we, along with other representative bodies, have asked the Local Government Board of Scotland to do, also that a veterinary officer be appointed to its staff. Unfortunately it was not thought fit to make such an appointment, nor was it believed that it had the power to draft recommendations dealing with meat inspection for the guidance of meat inspectors.

It does seem a strange thing that a veterinary surgeon is considered qualified by many local bodies to examine meat intended for human consumption, and that the Local Government Board is not yet prepared to appoint one to supervise the work throughout the country. While our position is assured under the Public Health Act, 1907, it will be found, as pointed out recently by Prof. Hay, M.O.H. for Aberdeen, that in the various regulations recently issued by the Local Government Board, the medical officer was the only officer specially named, and that all certificates for exported meat could be signed by him only.

What is the explanation of this condition of affairs? We are recognised by an Act of Parliament, yet in regulations drawn up by the Local Government Board we are ignored. How this method of granting certificates by the medical officer works out in practice I will leave it to others to explain.

It seems to be a matter of opinion as to whether a medical officer or a veterinary officer should have charge of the inspection of animals intended for the food of man. The number of medical men who claim the sole right to this position I believe to be getting gradually less, but in case there be any of my professional brethren present who believe the medical officer's claim to be absolutely dead, permit me to read the following opinion. It would seem that recently there had been an idea amongst some members of the Town Council of Aberdeen that it might be expedient to appoint a veterinary surgeon to act as meat inspector, and naturally the opinion of their medical officer, Professor Matthew Hay, was taken. From *The Medical Officer* I cull the following excerpt:—"Dr. Hay claimed that, in any case, the real question to be settled in the inspection and seizure of meat was whether the meat was fit for the food of man, and whether the disease was communicable to man. The standards, he writes, 'fall to be determined by the answer to this question, and the answer could properly be given only by those who had made a study of human diseases, and of their etiology.' Happily friction was avoided by the appointment of an additional lay inspector to work along with the previous inspector, under the direction of the medical officer and sanitary inspector.

Far be it from us to claim that we have made such an exhaustive study of human diseases as a medical officer has naturally had to do. Our claim is simply that we have made a study of the diseases in animals that are communicable to man, and from our training are better qualified to judge of abnormal conditions in the lower animals.

The opinion quoted above—as to why a veterinary surgeon should not be appointed to assist in carrying out the terms of the Public Health (Scotland) Act, 1907—is that of a medical officer to a great city—of a city where 40,750 cattle and 42,000 other animals are killed annually, with several slaughterhouses under the supervision of one lay inspector.

To show that all medical men do not hold the views of Professor Matthew Hay of Aberdeen, permit me to quote from an article recently written by Professor

McWeeney, of Dublin, on meat poisoning. Professor McWeeney is a man who has come into close touch with our profession, not only with the qualified man but also as an examiner for the diploma of the Royal College of Veterinary Surgeons. He writes: "It is at the slaughterhouse that such conditions as anthrax, blackquarter, pneumo-enteritis, swine erysipelas, and Gaertner infection can be most readily and certainly diagnosed by the aid of bacteriological procedures that can be efficiently performed by the well trained young men now being turned out by our veterinary colleges."

Personally, I feel confident that in time, as these posts fall vacant, or as public bodies become educated to the vast difference that exists between the man who has made a study of human diseases, and the man who has made a study of animal diseases, especially those communicable to man, we will see a change in the type of man appointed to supervise meat inspection.

Municipal bodies and the public are bound in time to recognise the difference between the man who sits in his office, making up monthly and yearly reports, based on facts and figures supplied by the real inspectors, and the man with an intimate knowledge of this special subject, regulating, guiding, and checking the work of his subordinates by personal supervision.

It was agreed that next meeting should be held in Perth, and Mr. J. G. Reynard, M.R.C.V.S., of that city was chosen president.

After the conclusion of the formal business a paper on "Tuberculosis and the Milk Supply" was read by Prof. Delépine, of the Public Health Department of the Victoria University, Manchester. Having outlined past work in investigating tuberculosis, and referred to the appointment of the Royal Commission on the subject, the Professor said they could accept as proved that bovine tuberculosis was a serious source of danger to man, and that of all bovine tuberculous products tuberculous milk was the most dangerous, owing to the share it took in the feeding of infants. That tuberculous infection of man by man was more common than infection of man by cattle was no reason why one should postpone dealing with bovine tuberculosis till all human sources of infection had been dealt with. The special methods which afforded a measure of protection to man were quite insufficient to protect cattle against the spread of the disease. The reverse was not true, for if bovine tuberculosis were stamped out by general measures the sanitarian would have nothing to fear from tuberculosis of cattle. The eradication of bovine tuberculosis was, therefore, a subject in which the hygienist was keenly interested. Referring to the methods which had been recommended for the sole object of protecting human beings against the effects of the consumption of tuberculous milk, he stated that the boiling of milk fulfilled this purpose efficiently, and as long as tuberculous milk and meat formed a necessity and considerable part of our diet their sterilisation would remain a necessity. Pasteurisation of milk as ordinarily carried out was not, in his opinion, an absolute safeguard. The infectivity of milk, if not entirely removed, was undoubtedly considerably reduced by this process; but he had found by careful experiments that living tubercle bacilli capable of infecting sensitive animals were sometimes present in milk and in cream which had been carefully pasteurised by accepted methods. The same was true of rapid desiccation by heat even when superheated steam was used for the purpose. The removal of slime by centrifugalisation, though good in itself, reduced to a moderate extent only the infectivity of milk. He did not think that any method based upon chemical treatment could effectively destroy the bacilli without rendering the milk unfit for use.

The lecturer referred in some detail to microscopical

and bacteriological tests, cultivation tests, and inoculation tests as methods for ascertaining whether milk was infectious or not. He thought he was justified in saying that they were all unsatisfactory when employed for the purpose of controlling directly the sale of milk. He would go further and say that even if an almost instantaneous test were discovered by which the presence of tubercle bacilli in milk could be infallibly detected, this method would not solve the difficulty in a satisfactory manner. In the first place, the infectious material would continue to be distributed as long as the examination of a sample had not revealed its existence. Secondly, the only effect of the testing would be either the exclusion of the contaminated supply from a certain market and its diversion to another, or, if all the markets were closed to tuberculous products, the farmer, being left unguided, would, in the present state of things, be exposed to such losses that the dairy industry would suffer greatly. This method of control of tuberculous milk would therefore afford only partial protection to the consumer, and would seriously damage the dairy industry unless the farmers were at the same time helped to put their herds in order. This difficulty might, however, be partly overcome by a combination of the testing of milk with the inspection of farms. It had been suggested that resistance to tuberculous infection could be so increased by improved social conditions (including good feeding, proper housing, and good sanitation) as to render the chances of infection slight. It was quite true that poor, weak, ill-fed individuals, crowded in unhealthy dwellings, were much more liable to suffer from exposure to infection than others; but he did not believe that simple sanitary and hygienic measures—valuable adjuncts though they were—could overcome the danger of infection by massive doses of infecting material, and, more especially, that infants could be protected in this way from the effects of feeding on tuberculous milk.

The unsatisfactory character of the methods which he had outlined indicated the advantages which, even from an ordinary public health point of view, the eradication of tuberculosis in cattle would have. The task was, however, one requiring cautious consideration on account of its magnitude, and of the financial difficulties which it involves. The method of control at present in use in Manchester was devised for the purpose of protecting the town against the importation of tuberculous milk from the country. The Borough authorities had for a long time been able to control the farms and dairies within its boundaries, but up to 1899 were unable to influence adequately the rural districts from which the bulk of the milk supply was derived. Their preliminary investigations conducted before that date had shown that the rural supply was highly infected. Although personally convinced that general measures would ultimately be found to be the only satisfactory method of prevention, he had from the first done his best to assist Dr. Niven in the carrying out of the policy which he considered to be the only one possible, under the circumstances, for the protection of the town under his care. Under the scheme, samples of the mixed milk coming from various farms were collected at the railway stations or elsewhere within the city, by the food and drug inspectors. These samples were sent to the bacteriological laboratory for examination. Any farm found to send milk causing tuberculosis by inoculation was inspected by the veterinary surgeon, who examined all the cows on the farm and took a sample of milk from each cow having a diseased or suspicious udder. These samples of unmixed milk were tested by inoculation at the bacteriological laboratory. The medical officer of health requested the farmer (1) to isolate the cows yielding tuberculous milk; (2) to cease sending the milk of these cows to town; and (3) he advised the farmer to have the cows with tuberculous udder slaughtered in the presence of the veterinary surgeon of the Corpora-

tion. This advice was followed in a great number of cases. The final step consisted in taking one or more samples of the mixed milk of the farm or shippin from which one or more cows yielding tuberculous milk had been removed. If these control samples were proved by bacteriological examination to be incapable (in the quantities used for the test) of producing tuberculosis, the farm was considered for practical purposes and for the time being free from sources of tuberculous infection capable of rendering the milk dangerous. If the control samples produced tuberculosis the farm was inspected again until all cows secreting tuberculous milk had been removed. The administration of the Manchester milk clauses had had a very marked effect upon the state of the farms supplying milk to Manchester. With one slight break in 1903, the improvement had been very steady, and at the present time the number of farms producing tuberculous milk was less than one-half of what it was in 1896 to 1900. This improvement had been effected (1) by the enforced removal of cows suffering from tuberculosis of the udder, which generally were also affected with advanced tuberculosis of other organs; (2) by the voluntary removal of many other diseased animals as a consequence of the knowledge acquired by the farmers as the result of the inspection of farms in their district by competent men; (3) by a general improvement in the sanitation of farms that had come under the control of the authority, and a better knowledge on the part of the farmer of the circumstances favouring the infection of stock.

A less satisfactory consequence of this improvement of the Manchester supply had been the transfer of suspicious cattle from farms under inspection to farms sending their milk to places which did not control their milk supply. In several cases also, farmers who supplied tuberculous milk to Manchester had, when this was discovered, ceased sending milk to the town, and now send it elsewhere, or use it to make cheese. Under this system, therefore, the benefit gained by the more enterprising community became a source of danger to its less active neighbours. This was true even though the Manchester authority endeavoured by all means in its power to supervise the disposal of infectious animals so as to cause their entire removal. The returns relating to the milk supply of Warrington were very instructive in this respect. In 1909 Dr. Coote Hibbert, the medical officer of health, urged on the Warrington authority the necessity of controlling the milk supply of the town more efficiently than had been previously done. In April, 1910, he began to send samples of milk to his (the lecturer's) laboratory, and to inspect farms found to supply tuberculous milk. Between April, 1910, and September, 1911, 115 samples of milk coming from 69 different farms had been tested, with the result that 11 were found to contain tubercle bacilli. In order to realise the state of things in April, 1910, and the effect which the inspection of farms and the removal of tuberculous cows had had upon the Warrington milk supply, it was necessary to divide the period of eighteen months, over which the work had extended, into three periods of six months each, and to compare the state of the mixed milk and of the farms during the three periods. The results of this comparison showed (1) that eighteen months ago the Warrington milk supply was more extensively infected than the Manchester milk supply had ever been between the years 1896 and 1911; (2) that after only six months' inspection work the Warrington supply had become as good, if not better, than the Manchester milk supply. The remarkable success obtained in this case was, in part, due to the smallness of the area, which made close supervision of the farms comparatively easy, but the rapidity of the change suggested the voluntary removal by the farmers of some suspicious animals. From the wider point of view which should be taken by the statesman it would appear,

therefore, that the isolated municipal control of the milk supply had serious defects. Yet it was clear that, so long as the State remained passive, it was the duty of enlightened communities to protect themselves against every possible source of disease. The policy adopted by Dr. Niven in 1899 was undoubtedly the right one under the circumstances, and it had on the whole been very beneficial and instructive, not only to the Manchester citizens, but also to a great number of farmers. Nevertheless, the facts he had related indicated clearly the need for more general measures having for object the stamping out of bovine tuberculosis. Although municipal authorities had a right, for their own protection, to see that the needed work was efficiently done, it was clear that much of what had to be done was entirely out of their sphere of action. It was equally clear that small urban districts would not be able to carry out efficiently work such as had been done in Manchester, so that, if all the large towns succeeded in purifying their milk supply it was probable that much of the milk refused by them would finally be supplied to the smaller towns.

In the latter part of his paper the lecturer discussed the question of the eradication of bovine tuberculosis, referring in some detail to the French system (Nocard and others, 1888); the Danish method (Bang, 1893); and the Prussian method (Ostertag, 1900). His objection to all these methods was that they did not provide (1) for an efficient supervision by competent men of every beast in every district; and (2) for the prevention of the frequent recurrence of sources of infection. The incompleteness of the results obtained by such methods, and the magnitude of the cumulative expenditure caused by this failure, would, he believed, in the end discourage the farmers and the authorities, and make them overlook the beneficial effects which partial measures undoubtedly produced, because these beneficial effects would be insufficient to secure permanent benefits. These considerations led him to devise the system which he first outlined in 1897, and which he had advocated on several occasions since. That system was, briefly—

(1) Division of the whole country into a number of well-defined administrative areas, each provided with an efficient staff of veterinary inspectors.

(2) Marking and registration of all cattle for purposes of inspection and notification. (This would, of course, mean the inclusion of tuberculosis among the recognised contagious diseases.) Systematic periodical inspections of herds and cowsheds within each administrative area. Testing with tuberculin of all cattle.

(3) Isolation of all tuberculous cattle. Disinfection of sheds which have been occupied by tuberculous cattle.

(4) Immediate slaughter of all cattle in an advanced state of tuberculosis (including all cases of udder tuberculosis).

(5) Fattening of all animals not in an advanced state of tuberculosis for the meat market. All cattle should be slaughtered in public abattoirs, so as to ensure thorough meat inspection.

(6) Compensation during one year or two for losses incurred by owners of cattle, except in cases when there had been gross or culpable neglect. After this transitional period of compensation the presence of a case of advanced tuberculosis in a cowshed to render the owner liable to a penalty.

(7) Testing of all cattle brought into the area, so as to prevent the introduction of fresh sources of tuberculosis. No cattle above six years of age to be imported.

(8) All the milk from tuberculous cattle to be boiled before use.

(9) Control of all foreign dairy produce, so as to enforce the same standard of purity as in the case of home produce.

(10) To avoid a sudden national depression in the dairy industry, the enforcement of these measures

should not be simultaneously carried out all through the country, but they should be at first enforced in a certain number of well-demarcated administrative areas, to which, year after year, other districts should be added, until the whole country was under administrative control. It is probable that the work could be accomplished in some five or six years.

The chief difficulty connected with this plan was, as in the case of the other methods, the financial one. This under the system would be temporary only, with, however, the exception of the expenditure caused by the establishment of an efficient veterinary service, which would certainly become a permanent institution, for such a service was needed for many other purposes than the eradication of tuberculosis. The first great outlay would be caused by the removal of old cattle in an advanced state of disease. But this first removal would afterwards secure the entire absence of such cattle. He contended that the disposal of young tuberculous animals in which the disease was very seldom advanced could be effected with little loss if these animals were properly fattened before being sent to the abattoir.

A paper on "Existing and Prospective Legislation *re* Milk Supply," was read by Mr. John Lindsay, Town-Clerk-Depute, Glasgow. He remarked that having regard to the fact that milk was an important part of the food of man, and particularly of that of young children, and that it was undeniably the channel by which many serious diseases and illnesses may be carried to human beings, it was surprising that the law had not been uniform throughout the United Kingdom, and that it had not been set forth in the statutes in simple and concise yet comprehensive terms. The law on the subject, contained in many statutes, orders, and regulations, was complex and confusing, in some instances contradictory, and, in a general sense, chaotic. Mr. Lindsay proceeded to submit a succinct statement of the law on the subject. In the course of his remarks he urged that compensation under the Tuberculosis Order of 1909 ought to be provided out of the Imperial funds, and not placed on the local rates. Commenting on defects in the Bills of Mr. Burns and the Secretary for Scotland, he said these were principally caused by the jealousy of local authorities—the county was jealous of the burgh authorities, and would not permit interference on the part of the latter in dairies and dairy farms when the disease was known to break out and to attach to certain milk producing centres. Until in his clear opinion the representatives of the milk consumers in those larger burghs had some immediate say in the methods of its production, and had the power to refuse to take milk which was suspected of producing illness or disease, the whole question of a town's milk supply could not be on a satisfactory basis so far as the citizens were concerned.

DISCUSSION.

In the afternoon a discussion on the papers took place, the first speaker being Mr. Lloyd, Sheffield, who said that he was fully in accord with many of the remarks of Professor Delépine as to proposed legislation, but he was afraid he could not go so far as he went on the matter of finance. He believed that tuberculosis was to be found in dairy produce other than milk. In regard to legislation, he said it was a question how far the public were educated to go, and where the money was to be found. Discussing the second paper, he said that at present notification was practically a dead letter. It must be compulsory, and accompanied by compensation. (Applause.)

Mr. Cameron, Berwick-on-Tweed, said he was not a Home Ruler, but there were some lessons to be learned in these matters from Ireland. (Applause.) Continuing, he said there was only one conclusion to come to,

and that was that the presidents of the Local Government Board were practically ignorant of the subject, and that they had been led by ignorant, selfish medicals, proving unmistakably the necessity for a veterinary member of the Local Government Board. (Applause.)

Councillor Dr. Erskine, Glasgow, believed that local authorities had power to follow up cases from which infection proceeded. He should like to have seen a greater representation of the medical profession at the meeting. He was not at all orthodox as to the views medical men held in regard to veterinary inspection. He believed the day had arrived when this branch of the work should be left in the hands of veterinary men. From their training, clinically and scientifically, they were very much better qualified to deal with tuberculosis in cattle than medical practitioners were. (Applause.) He did not see why the medical profession would not relinquish this department into the hands of veterinary surgeons. It was irritatingly disappointing that they were taking such a long time to get a satisfactory Bill in regard to the control of milk through Parliament.

Mr. M'Phail, Hull, declared that neither John Burns nor the Local Government Board were led by medical men or anybody else. It was a question of party politics. He gave a number of experiences in the working of the various regulations, and thought this matter should be left with the Local Government Board rather than placed under the Board of Agriculture as had been proposed.

Having to leave to catch a train, Prof. Delépine at this point replied on the discussion; and the Chairman, in expressing the thanks of the meeting, requested him to consent to become an honorary member of the Association, which he did.

Mr. Hugh Begg, Lanarkshire County Council, with reference to the statements as to cows found to be infected being removed by the owners elsewhere, said in Lanarkshire every such case was watched by the authorities. Veterinary surgeons could clear this country of tuberculosis with the greatest of ease if they had plenty of money.

Mr. Peddie, Dundee, and others continued the discussion.

Councillor Smith, Glasgow, said the Corporation of Glasgow were not only wanting legislation but wearying for it. They wished some forward movement could be made.

Mr. Lindsay replied to this discussion, and was also elected an honorary member of the Association.

On the motion of Mr. Lloyd, a resolution was adopted calling upon the Government to take immediate steps to control tuberculosis on the lines suggested in the paper read by Professor Delépine.—*N.B.A.*

Cruelty Charge against a V.S. at Wigton—Dismissed.

At Wigton (Cumberland) Police Court on Tuesday, 24th inst., Joseph Donald, a well-known veterinary surgeon, was summoned on the information of Inspector Hampshire, R.S.P.C.A., for causing a cow to be cruelly ill-treated on divers dates on and between September 19 and October 6.

Mr. Stewart Bevan, barrister-at-law, London (instructed by Mr. Sydney G. Polhill, solicitor, London) appeared for the prosecution, and Mr. Joseph Hetherington, solicitor, Wigton, was for the defendant.

Mr. Stewart Bevan said the substance of the cruel ill-treatment was that the defendant kept, and caused to be kept for a considerable period, a cow which was wholly deprived of the use of one of its forelegs under such conditions as to cause intense distress and considerable pain to the cow in living in a field and moving about

in its attempt to find food and get water. Mr. Donald was a veterinary surgeon, and as the Bench would see from the evidence an attempt was made to avoid what was always a disagreeable duty, namely, prosecuting a member of the profession, who the Society looked to in assisting them to enforce the law with other people in regard to cruelty. It was something like obstinacy on Mr. Donald's part, for when his attention was drawn to the condition in which this cow was existing, and he was asked to remedy things, he refused to do so and told the Society's Inspector to make a case if he could. The Society were therefore obliged to issue a summons.

The cow's front leg was drawn up from the knee and it was unable to use the leg at all, was in a very poor and distressed condition, and bringing the whole weight of the fore part of its body upon the near fore leg: the leg was flexed upward—there could be no downward movement. Its sufferings did not end there for there was a young bull in the field and two young calves which interfered with it. He said it was the duty of everybody, and more particularly he should have thought of a veterinary surgeon, who was more familiar with what was more likely to cause suffering to an animal, when he had an animal in such a condition as that, not to place it in an open field to look after itself, but to put it in a place and, if necessary, sling it to prevent it being in pain, and bring food to it and keep it under conditions which would reasonably alleviate the suffering of the animal.

John Wilkinson, photographer, High Street, Wigton, who took a photograph of the cow at the request of Inspector Hampshire, now produced prints of it.

Inspector Hampshire, R.S.P.C.A., said he first saw the cow on Sept. 18 in the field when passing in the train. It was making spasmodic jumps to get along. On the following day he went to the field and found that the cow was going on three legs, and was in very poor condition. She had a wild look about the eye, and could only walk with difficulty. He examined the deformed leg and found that she could not flex it. Locomotion did not come easy to her, and in his opinion she was suffering both pain and discomfort. There were two calves in the field and as soon as the cow got up they went to her and began to butt her in the udder, and try to force milk to flow. A young bull that was also in the field annoyed her and she laid down. The bull was about 14 or 15 months old. The bull and calves seemed to irritate the cow. Witness afterwards saw the defendant and told him that he had seen the cow, which seemed to be in an awful state and very lame, and that there was a young bull and two calves in it to worry her. He told defendant that he did not think she ought to be there at all. He said, "Why?" and witness replied that the cow was in pain—that it was evident to anybody. Defendant said, "Well, I do not think so," and witness replied, "I must differ with you, Mr. Donald, although you are a veterinary surgeon." Defendant said "Well you know the cow is in no pain, and you can do what you like." As the defendant spoke abruptly, he left him and took him at his word. He had the cow photographed by Mr. Wilkinson. On Sept. 25th he again went to the field in company with Mr. Malloch, V.S., Kirkby Stephen, who examined the cow. The conditions were about the same. There were three feeding troughs lying on the grass, and one was upside down. There were no marks of any kind to show that the troughs had been used for feeding the animals, and he could not find any evidence of food having been brought. They searched the field for a water supply, and found that there was a small beck at the bottom of the field, to let to which the cow would have to go down a steep bank. She would suffer a great deal of pain going down and coming up the bank, and he did not think she would go down unless she was actually forced by thirst to go there. On October 2 he again visited the field and found that things generally

were in the same condition. The feeding trough showed no indication of having contained food. There was no alteration in the conditions on the occasion of his visit on October 6.

Cross-examined: When he took out the summons he followed the usual course. It was not usual to state on the summons the manner in which the cruelty was caused.

Mr. Hetherington said that the summons did not state in what manner the cruelty was caused, and it left it open for the prosecution to allege any acts of cruelty they liked when they came into Court.

Cross-examined by Mr. Hetherington, the Inspector said that no complaint was made to him about the cow. His first examination was a visual one. He thought that withering away was evidence of the existence of pain. He did not see the cow lick herself. The cow was suckling two calves, and that would make a difference in her condition. The calves were in fairly good condition and so was the bull. He would not say there was plenty of grass. He believed the cow had suckled four calves. He had asked three veterinary surgeons in Cumberland and one in Northumberland to examine the cow but they refused to do so.

Re-examined: There was a natural reluctance among many professional men to give evidence against another member of their own profession.

Alfred Kershaw, M.R.C.V.S., Southport, said he had had 27 years experience in the middle of an agricultural district. On October 6th he examined a roan cow shown to him by Inspector Hampshire. When he went into the field it was lying down, and the first thing he noticed upon it rising was its miserable appearance. Its coat seemed to be rather harsh, and it had a dull expression in its eye. From the condition of the ground it appeared to have lain about four hours. In the off-fore leg, all the muscles of the fore arm were completely wasted away, and the lower portion of the limb was at right angles to the knee. The limb could be drawn up but it could not be depressed, and it was of no use to the cow in moving about. It was quite evident that she must have been lame for a long time as the result of a fracture. There would be a certain amount of pain on rising, and the condition of the animal pointed to the conclusion that it was being cruelly ill-treated by being kept under such conditions. It would be difficult for the cow to get to the water, and it would be only with great compulsion that she would go. He saw the two calves in the field, and also a bull hanging round and paying her unwelcome attention. The cow had no milk in her udder. Assuming there was no local pain in the leg the animal was not fit to be turned out into the field. It was an act of cruelty to keep it under, what he considered, disgraceful conditions. There were no signs of food having been brought to the feeding troughs, which appeared to have been undisturbed for a long time.

Cross-examined: There were indications of pain because she flinched under extreme pressure. The only sign of local pain he saw on his examination was in the injured limb when the cow attempted to rise. It would not be constituted cruelty if she had been kept inside under better conditions. An animal suffering pain might have a normal temperature and a normal pulse. She would not have any pain when she was in a recumbent position. In case of injuries to the limbs of extremely valuable cattle amputation was resorted to, but it was not so with ordinary milk cows. It was the general conditions under which the cow was living that he objected to.

Re-examined: The animal ought to have been placed in a box and the food brought to her.

Robert M. Malloch, M.R.C.V.S., Kirkby Stephen, who has had 25 years experience, said he examined the cow on September 25th, and found it in a very emaciated condition. It had an anxious expression, and was walk-

ing on three legs, the near fore leg being bent at the knee. A bull was giving her some attention, and she could not get away from it without pain or discomfort to herself. Two calves were butting at her and trying to get milk from the udder, but there was none, and the cow tried to get away best it could. There were no signs of food except grass. It was rather improper to put the cow into the field. It would have been more humane to have tied it up in a stall.

Cross-examined: He took the pulse, which was rapid, and which indicated that there was a certain amount of nervous irritation somewhere. He could not see any signs of good health. The cow had a cough. He did not see any signs of a fracture. The leg would probably have got into the position it had from an injury to the muscles.

William Hunting, F.R.C.V.S., an ex-President of the Royal College of Veterinary Surgeons, in practice in London, said he had seen the cow that morning, and she might have been treated better than had been described. The conditions he objected to were that it had to travel on three legs instead of four, and the difficulty of getting up and down the bank for water. It would certainly add to the discomfort of the animal. The presence of the bull and calves would also add to her discomfort. It was only justifiable to keep a cow like that to get a calf which was valuable, or to endeavour to get it fat for the butcher if it was in poor condition. It would be better in a loose-box than a field.

Cross-examined: He knew that Mr. Donald was one of the examiners of the College. From the conditions under which he found the cow that morning he could not say that it was cruel ill-treatment on the part of Mr. Donald.

George Moffat, signalman, in the employ of the Maryport and Carlisle Railway, said that his cabin overlooked the field, and the cow had been in it all summer. He had never seen any one bring it food or water, and he had seen the cow most days. The cow could not walk, and it had to jump about.

Cross-examined: He had been 20 years in the signal cabin. He saw the cow last summer. He had only seen the bull chase the cow once.

Mr. Stewart Beavan informed the Bench that the cow was not in the same field as it was on the dates included in the summons.

This concluded the case for the prosecution.

DEFENCE.

Mr. Hetherington said that when his friend opened the case and asked the Bench to convict on the evidence he put before them, he had not anticipated that an eminent veterinary surgeon like Mr. Hunting would say that he could not see any signs of cruelty and nothing to justify them in convicting the defendant. It was iniquitous and most improper that a gentleman in the position of Mr. Donald should be called there and put to the expense of defending himself upon the charge. After he called his evidence he was going to ask the Bench not only to dismiss the charge but also to say that it ought never to have been brought. If the case for the prosecution depended upon the evidence of Inspector Hampshire they would have something to go on. But they were followed into the box by two veterinary surgeons about whom he did not want to say anything. In justice to Mr. Donald he must say that the photograph had been hawked about to three veterinary surgeons in Cumberland and one in Northumberland before they could get one to come and give evidence against Mr. Donald. Both the gentlemen who had come were unknown to their fellow practitioners in Cumberland, and upon their evidence, notwithstanding the refusal of the others to come, the Bench were asked to convict Mr. Donald. They had heard from

their evidence the nature of the examination made. One of them, although he was an expert witness, never saw the fracture at all. Mr. Donald, who was well known to the magistrates, had had a long and varied experience in veterinary surgical matters. Did they think for one moment that he was a man who was likely to keep a cow for two summers in a field in a cruel position? Mr. Donald had a reputation, which went far beyond the borders of Cumberland. He had the highest and best qualification known to veterinary practice which could be obtained, and he was recognised upon that by the leaders of his profession as one of the most expert animal surgeons in the North of England. Mr. Hunting was a President of the Council and Mr. Donald was an ex-member of that Council, and had frequently acted as examiner of candidates who were applying for entry to the profession of Veterinary surgery. The Bench were asked to say that with that reputation and experience behind him, defendant put the unfortunate animal into the field and cruelly ill-treated it. The condition of the animal was due to a fracture of its humerus which occurred on July, 1909—two years and four months ago—and it was due to calve early in September. It was a valuable breeding cow, and a valuable dairy cow. What was to be done in circumstances like that? The only proper surgical course and the only humane course to adopt was to attend to the fracture, wait until the cow calved, and then try to do something to cure the inevitable shortening of the leg that must occur after a fracture of that kind. That was exactly the course adopted by Mr. Donald. He attended to the fracture, waited until the cow had delivered her calves in September and they had got well away, and then he tried to cure the cow of her injury. He had two alternatives—either to amputate the leg or perform the operation of tenotomy, by which the injured limb was drawn clear of the ground. There was no reason for the amputation, which would have been a more cruel and painful way, so Mr. Donald in his judgment decided to perform tenotomy. This he did successfully and it left the limb in the position shown by the photograph. The treatment was quite humane. He would call Mr. Ashley, F.R.C.V.S., of Dalston, who also held the highest qualifications, Mr. T. Richardson, Wreay, and Mr. W. H. Williamson, Waverton, and several railway servants, after which he would ask the Bench to dismiss the case.

Without hearing the evidence the Bench retired, and on their return to Court, the Chairman (Alderman Wm. Williamson) said that they had decided to dismiss the case and each party would have to pay their own costs.

Coleman v. Twining—A New Trial.

In the Court of Appeal on Monday, October 23rd, before Lord Justice Vaughan Williams, Lord Justice Buckley, and Lord Justice Kennedy.

This was an application by the defendant for judgment or a new trial in an action tried before Mr. Justice Lush and a common jury, reported in *The Times* of February 27.

The plaintiff, Mr. John Coleman, a veterinary surgeon, sued the defendant, Mrs. Ada Louisa Twining, to recover the sum of £30 4s. 6d. for professional attendances upon dogs belonging to her. The defendant denied liability and counter-claimed to recover damages for alleged negligence by the plaintiff in the treatment of her dogs in consequence of which they became ill and died of distemper. The alleged negligence consisted in putting such delicate dogs as Japanese spaniels into kennels in an open yard, where low temperature made them prone to distemper, and in not sufficiently isolating the dog which first displayed symptoms of distemper.

At the trial the jury returned a verdict for the plaintiff on the claim and counter-claim, and the learned Judge directed judgment to be entered accordingly. The defendant applied for a new trial on the grounds that verdict was against the weight of evidence, and that the learned Judge had misdirected the jury; and in the alternative for judgment.

Mr. Stewart Bevan appeared for the defendant; Mr. Rawlinson, K.C., and Mr. Patrick Hastings for the plaintiff.

The Court ordered a new trial.

Lord Justice Vaughan Williams said that in his opinion the Court could not refuse to grant a new trial. He thought that the learned Judge had misdirected the jury on a material point which might be reasonably thought to have influenced their verdict in telling them that there was no evidence which would warrant them in finding that one dog either got the disease of distemper or showed signs of distemper so many days before the other dogs that they could come to the conclusion that if there had been proper isolation the other dogs' lives could have been spared.

Lord Justice Buckley said that he had with regret and reluctance come to the conclusion that there had been a misdirection just sufficient to entitle the defendant to a new trial.

Lord Justice Kennedy concurred.

Solicitors.—William Easton and Son; Calder, Woods, and Pethick.

From another report:—

The case which had occupied this Court for two sittings is of special interest to owners of dogs, but also

of general interest because of some remarks made by Lord Justice Vaughan Williams, as to persistency in incurring legal expenses upon comparatively trifling matters.

In the course of the proceedings a model of the kennels was produced, and Mr. Bevan proceeded to argue the question of isolation in this form of disease.

Lord Justice Vaughan Williams asked what distance from other unaffected dogs constituted effective isolation.

Mr. Rawlinson: One expert said a quarter of a mile. (Laughter).

Mr. Bevan submitted that, taking into account the period of incubation, the animals were not isolated soon enough.

At the close of Mr. Rawlinson's argument against the appeal, the Court gave judgment allowing the appeal, on the ground of misconduct. They ordered a new trial, and also directed that a sum of £400 paid into Court by Mrs. Twining in respect of the first trial be refunded. Appellant was given costs of her successful appeal, and the cost of the first trial will abide the result of the second.

Lord Justice Vaughan Williams expressed a hope that the parties would not go to a second trial and incur more expense, but that they would allow a friend to act as mediator, with a view to a mutual agreement. This course was all the more advisable because there was not now any imputation upon the general or professional skill of Mr. Coleman. It seemed to him shocking that the parties should be wasting their substance upon a matter in which ten years hence both sides would say it was a matter of perfect indifference whether the case went on or whether it did not.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.		Anthrax.				Foot-and-Mouth Disease.		Glanders				Sheep Scab.	Swine Fever.	
		Outbreaks		Animals				(including Farcy)		Counties Affected				
		Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.	
Gr. BRITAIN.	Week ended Oct. 21	25		25		1	1	5	8				28	290
Corresponding week in	1910		26		29			10	20	Essex	1	2	32	390
	1909		12		13			8	21					
	1908		21		25			15	46	London	3	3	27	277
Total for 42 weeks, 1911		710		878		18	467	166	295	Middlesex	4	315	2036	23855
Corresponding period in	1910		1174		1393	2	15	313	911			359	1173	10701
	1909		1047		1379			443	1568			489	1385	12447
	1908		880		1168	3	112	673	2084			652	1688	10332

Board of Agriculture and Fisheries, Oct. 24, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Oct. 21	...	...	...	...	...	...	...	6	5	63
Corresponding Week in	{ 1910 ...	...	...	...	...	...	...	2	4	2	17
	{ 1909 ...	1	1	...	...	...	...	1	5	...	...
	{ 1908 ...	...	...	...	...	...	...	...	2	1	4
Total for 42 weeks, 1911		...	7	14	2	3	52	277	112	1895
Corresponding period in	{ 1910 ...	5	8	...	...	1	2	62	375	77	1778
	{ 1909 ...	8	8	...	...	...	...	69	316	86	1561
	{ 1908 ...	7	10	...	...	...	...	34	288	148	3469

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 23, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

GLASGOW VETERINARY COLLEGE.

The winter session of the Glasgow Veterinary College was opened on Friday afternoon, Oct. 20, when an address was delivered by Dr. D. N. Knox, president of the Faculty of Physicians and Surgeons of Glasgow. Sir Hugh Shaw Stewart, Bart., presided, and there was a good attendance. Amongst those who accompanied the Chairman to the platform were Principal McCall; Principal Bradley, Royal (Dick) Veterinary College, Edinburgh; Mr. Alan Burns, of Cumbernauld; Mr. Hugh Begg, M.R.C.V.S., Hamilton; Mr. H. R. B. Peile, Greenock; and Mr. Alexander Russell, secretary of the College.

The Chairman said that, while they had with the aid of subscriptions and equivalent grants from the Education Department succeeded in placing the College on a more satisfactory footing, there would undoubtedly be required more money for improvements in the structure. He did not yet quite see where that money was to come from, but he hoped that they would continue to receive the ready support of county councils in the counties of the West of Scotland. (Applause.) Sometimes they heard the man in the street ask what was the use of a veterinary surgeon now that they had taxicabs taking the place of horses in such large numbers. It was sufficient to remind the man in the street that there were such things as health committees connected with burgh and town councils, and that the latter were being moved more and more by the people to take greater care of the food, including milk, which was distributed in the towns and cities. It did not require very great penetration to see that the individual in the future on whom the community would have to depend to a large extent in these matters would be the veterinary surgeon.

Dr. Knox's address took the form of a discourse on the developments of the science of bacteriology, with incidental reference to meat inspection and other subjects, and was listened to with the closest attention.

In moving a vote of thanks to Dr. Knox, Principal Bradley said he did so with pleasure for two special reasons—firstly, because he thought the lecturer deserved their thanks for his most stimulating and suggestive address, and secondly, because the address was delivered by the President of the Faculty of Physicians and Surgeons of Glasgow. He took that meeting as an indication that there was a desire for more co-operation between the medical and the veterinary professions. In the past there could be no question that the two professions had been too far apart. The sooner they came to work together, and very closely together, the better it would be for both of them. (Hear, hear). He was particularly gratified by what Dr. Knox had said about veterinarians and public health questions. There could be no doubt that veterinary surgeons were going to be potent factors in the future in the preservation of the health of the people, and the sooner public bodies and the veterinary profession itself realised that, the better it would be for them all. (App.)

Replying to a vote of thanks for presiding, the Chairman said he was amply rewarded by seeing such a good attendance and listening to such a valuable address. He expressed pleasure at having with them that day the Principal of the Dick Veterinary College, Edinburgh. He (the Chairman) was one of a deputation which went through to Edinburgh to meet an equal number of Dick College representatives to consider the question of the equalisation of fees. He had no doubt the Principal of the Edinburgh College wished them well, as they in Glasgow wished the Edinburgh College well.—*N.B.A.*

Personal.

BENNETT.—To Ralph and Constance Bennett, on October 18th, a son, at "Iona," Hornchurch Road, Romford.

Dick College and Veterinary work of Edinburgh Corporation.

The Cleaning and Lighting Committee of the Edinburgh Town Council had before them on Monday last a deputation from the Royal (Dick) Veterinary College asking that the care of the horses of the Department be put under the College. It seems that at present Principal Dewar, who, as head of the Dick College, looked after this work, has continued it since his resignation, and the College authorities think that this was peculiarly a matter for the College. The deputation consisted of Mr. A. I. Macallum, Principal Bradley, Judge Stevenson, and Mr. R. Anderson, S.S.C., the Secretary of the College. It was agreed to delay a decision for the purpose of certain inquiries being made.—*Edinburgh Evening News.*

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Oct. 20.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. D. R. Chatterley is seconded, under the conditions of paragraph 114 of the T.F. Regulations, for employment under the Colonial Office. Dated Sept. 1.

Oct. 24.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. Edward Brown is placed temporarily on the Half-pay List on account of ill-health. Dated Oct. 25.

OBITUARY.

ROBERT GERALD MELVILLE, M.R.C.V.S., Bridgend, Glam. Graduated, Dublin: July, 1904.

Mr. Melville died on Wednesday, Oct. 18, at the Cottage Hospital, Malton, York, from cerebral hemorrhage, due to an accidental fall. He was only 28, and leaves a widow and a little son.

EDWARD BOGHURST DAWSON, M.R.C.V.S., Tower Lodge, Clacton-on-Sea. Lond: May, 1844.

Death occurred on October 22nd, at the age of 88 years.

MOTOR CARS AND VETERINARY PRACTICE.

Sir,

A motor car has become such a necessary adjunct to a veterinary practice in these days of rapid transit that a short summary of what the annual cost of a small car amounts to would probably interest many of your readers.

Mine is an 8 h.p. Renault two-seater, which, as far as my observations and experience go, is the best and most satisfactory low-powered two-seater on the market to-day.

Petrol	£15 5 0
Oil and grease	2 8 11
Tyres and repairs to tyres	17 3 9
Sundries	1 10 7
Stove and fuel	1 9 0
Repairs to car (broken petrol pipe and bolt)	4 6
Licence of car	3 3 0
Driving licences	10 0
Insurances of man, etc	15 0
Insurance of car, including mechanical breakdown	8 10 0
	£50 19 9

The wages for the man are not included. The estimated mileage for the year is 6750. The cost of the car, I may say, was £205, and the necessary fittings £38, total £243.—Yours faithfully,

HENRY TAYLOR.

Hayward's Heath, October 24.

Veterinary Societies—Addresses.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

Pres: Mr. William Robb, F.R.C.V.S., Glasgow.
Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,
 Moore Street, Abattoir, Glasgow.

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton
Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,
 Dalegarth, Windermere
Meetings, Second Friday of Feb., June, and October

BRITISH COLUMBIA V.M.A.

Pres: Dr. Gibbons, M.R.C.V.S., Vancouver.
Hon. Pres: Dr. Hamilton, M.R.C.V.S., Victoria.
Sec., Treas., Registrar: Dr. T. Jagger, V.S., Vancouver.

CAPE OF GOOD HOPE V.M.S.

Pres. Mr. J. D. Borthwick, M.R.C.V.S., Cape Town
Hon. Sec. & Treas. Mr. R. W. Paine, F.R.C.V.S.

CENTRAL V.S.

Pres. Mr. R. J. Foreman, M.R.C.V.S., High Cross, Tottenham
Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S.,
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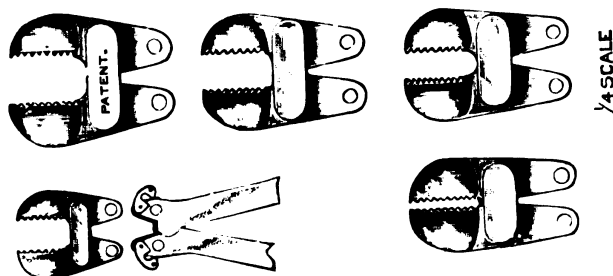
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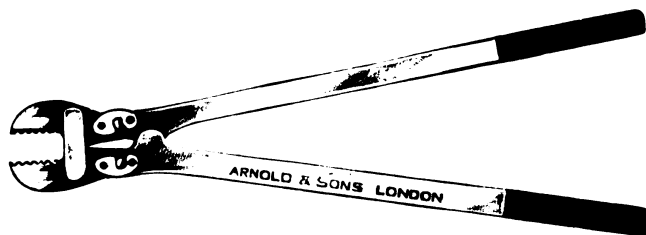
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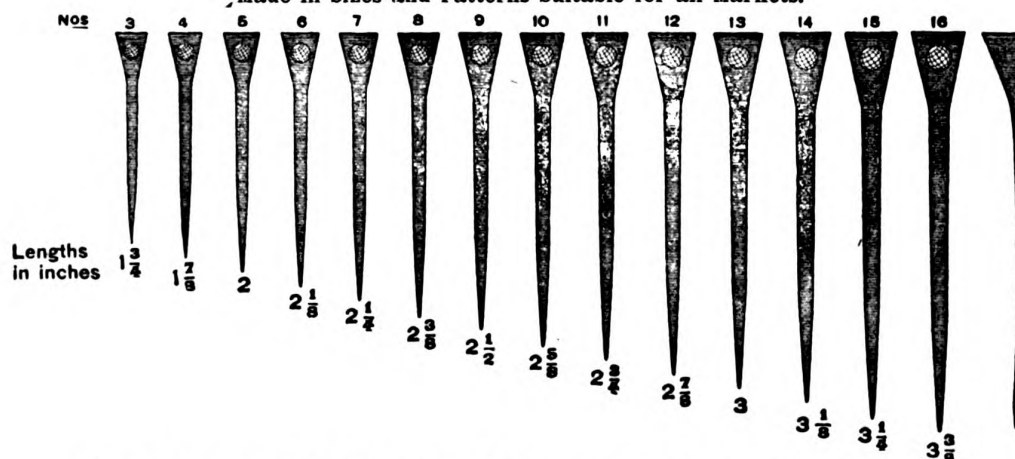
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Midland Counties V.M.A.

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The number of places for these Courses is limited and early application must therefore be made to prevent disappointment. The next Course will begin on Monday, October 7th, and terminate on Friday, November 29th, 1912.

The College Calendar, containing full particulars, will be forwarded on application to

The Secretary,

Royal Veterinary College, Camden Town, N.W.

THE VETERINARY RECORD

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THE REGISTER OF 1912.

The Register R.C.V.S. undergoes its final revision during the last few weeks of the year; all changes of address should therefore be notified to the Registrar during the present month if possible, or at least early next month.

We mention the matter for a two-fold reason—partly as a reminder to those members who have changed their address during the year, and partly in the hope of inducing the larger number who may be able to help the Registrar in tracing missing men to do so. Some practitioners are very careless about notifying their changes of address, but not many disappear so completely as to leave all their professional acquaintance ignorant of their whereabouts; and most of us, from time to time, find ourselves possessed of information which may help the Registrar in tracing them. Any such information is just now of material assistance. It may help to keep a careless colleague out of trouble; it will certainly be doing something to increase the accuracy of the Register, and every member should feel it his duty to assist the Registrar in this direction whenever he can.

MOTOR CARS IN VETERINARY PRACTICE.

Our profession did not welcome the advent of motor cars; but they have now become a necessity in many veterinary practices. Probably more members would be using them now than are doing so, were it not for the fact that there is still a good deal of uncertainty regarding the cost of their upkeep. Motorists are often very hazy upon this point; for the majority are well-to-do men who use motors chiefly as luxuries and pay no great attention to their cost. Not many motorists, again, take the trouble to keep reliable records of their mileage: and these are essential to any accurate estimate of the annual cost. The result is that, even in these days, men who contemplate adopting motor traction for professional purposes often find it difficult to forecast the working cost of the change.

Mr. Henry Taylor last week furnished the profession with a short note upon the annual upkeep of one type of small car. Possibly other veterinary motorists also possess reliable figures, and, if so, a comparison of notes might be valuable. A motor-car can travel so much farther and faster than a horse that there is no question of its utility in a busy practice, especially a country one. But there is still doubt, in the minds of many practitioners, as to how its cost compares with that of horse-flesh: definite information on the question will be of assistance in arriving at a conclusion.

STRANGULATED INTESTINE BY MESENTERIC TUMOUR.

I enclose photo of a curious lipoma.

On Saturday the horse, a black hunter gelding (aged), had a fairly stiff day's cub hunting. After returning home he appeared perfectly well, and nothing was noticed until about five in the evening, when he had a sharp attack of colic. He was given a colic draught and I was called in.



On examination I found that he was sweating profusely; the pulse was very fast and thin, but he did not appear in much pain. I gave a dose of physic. Later in the evening I was again called and found that he was showing signs of pain; pulse about the same. He continued to have sharp short attacks of pain at varied intervals until Monday morning at 7 o'clock, when he died. His appearance gave one the suggestion of an animal with a twisted intestine. The only treatment employed after the physic was a sedative, and enemata.

Post-mortem showed a tumour of fatty nature suspended from the mesentery by a pedicle some eight inches long, and attached some six inches below the right kidney to the muscular wall of the abdomen, leaving a small foramen about two inches

across through which a loop of intestine had become snared. I tried to pull the trapped bowel out, but was unable to do so. On making an incision round the base of the tumour, the intestine was shown lying in a pocket in the form of the letter U. The rough diagram shows how at the point of entry and exit both parts were extremely constricted.



Thinking this might be of interest, I had it photographed and send it to you for *The Record* if you think it is of sufficient interest.

WILLIAM S. MULVEY.

Chelmsford, Oct. 24.

ANEURISM OF THE POSTERIOR AORTA.

Subject.—A thoroughbred brood mare in foal, aged, 16 hands.

The mare was unboxed at Harbour apparently all right, and was moved to stables and ate her feed, and within a quarter of an hour was found dead in the position as depicted by photo. As the animal was dead ere I arrived, and being heavily insured I had a photograph taken of the exact position, and made a post-mortem same day, which revealed that the cause of death was due to "rupture of the posterior aorta," the vessel wall of which was in an atheromatous condition. The animal was not tied up, or cast in loose box, and died without a struggle in the peculiar position. Aneurism not verminous.

HENRY B. EVE, M.R.C.V.S.

Folkestone.

ACORN POISONING.

There is an enormous crop of acorns this year, and many cases of poisoning of cattle after eating them have been reported. So far this autumn I have only had one animal, a yearling heifer, dead from this cause, though I have seen a good many mild cases that only amounted to indigestion and constipation.

It is interesting in this connection to point out that acorn poisoning in cattle appears to be confined to this country. Professor Fröhner, in his text-book of Veterinary Toxicology, states that this poisoning is mostly seen in England, and the only authorities he quotes are English, Pugh and Thorburn, though he observes that Schütz had seen indigestion and constipation in cattle after feeding on oak leaves and acorns. It certainly does seem curious that in this country many young cattle die every autumn from acorn poisoning, while no fatal cases are recorded by continental authorities.

Of course a possible explanation is that abroad acorns are more carefully gathered to be fed to swine or to adult cattle or sheep, and not left below the trees as they are in this country.

In contrast to this absence of acorn poisoning in Germany, poisoning by equisetum appears to be very common there, while here we seldom get a case recorded. It does occur, however, and I have seen it several times, and always in cows. The patient behaves very much like it might be expected to do after a large dose of alcohol. It is excited, staggers about, falls, and after a time gets drowsy and even semi-comatose. The symptoms are not dissimilar from those of milk fever. The animals mostly recover.

W. R. DAVIS.

Enfield.



ABSTRACTS FROM FOREIGN JOURNALS.

THE TREATMENT OF MANGE IN HORSES.

Boudeand discusses (*Revue Générale de Méd. Vét.*) the treatment of equine sarcoptic mange. He advises abstention from the use of all prescriptions which contain petroleum, benzine, or oil of turpentine as a base. These agents irritate the skin, and the action they exert is slow. In consequence of the latter property, numerous applications are necessary, and their use thus becomes costly.

Boudeand recommends an old formula as being always serviceable. He says that a single application of it cures the most obstinate forms of mange without irritation or inflammation of the skin. It is made up of powdered cevadilla seeds, 10 parts, sulphur sublim. 6 parts, burnt alum 4 parts, and oil (exact kind not specified) 100 parts. This mixture should be digested with continuous stirring for at least an hour.

The animal is completely rubbed over by means of two applications (one for each half of the body), with an interval of 48 hours between them. Before the second half of the body is treated, the already dressed first half should be washed with soap and water. In old-standing cases of mange, it is also advisable to thoroughly cleanse the skin with soap and water before commencing treatment.—(*Berliner Tier. Woch.*)

(Cevadilla is now little used, in this country at least, and the note is therefore of some interest.—TRANSL.)

A SPECIFIC SEPTICÆMIA OF CALVES.

Gerspach, of Messkirch, in a communication to a veterinary society at Baden, says that a disease of calves produced by capsuled diplococci is not unknown in that district. Most of the animals attacked are in the sucking age, but it seems immaterial whether they have been fed by the mother or from a bucket. The chief symptoms are loss of appetite, abdominal pain, diarrhœa, difficulty of breathing, and convulsions, and the duration of the illness is from half a day to three days.

The post-mortem appearances suggest anthrax or petechial fever, as there is enormous swelling of the spleen, with numerous hæmorrhages. The gastrointestinal canal is often the seat of a violent sanguineous inflammation, and numerous hæmorrhages exist upon the serous membranes, the diaphragm, etc. Lesions of the navel or the joints are not demonstrable.

The diplococci are demonstrated without difficulty in the spleen, the mesenteric glands, the blood, the liver, and the tissue juices. The capsule is brought very well into view by staining with a 2% solution of gentian violet and decolourising with dilute acetic acid.

Infection takes place by ingestion. Great cleanliness, and the application of an efficient muzzle to prevent the eating of straw, are recommended as prophylactic measures.—(*Berliner Tier. Woch.*)

PHOSPHOROUS POISONING IN POULTRY.

A campaign against rats, prompted by the danger of bubonic plague, has of late been instituted in Hamburg; and phosphorous paste has been largely employed for this purpose. As a result, phosphorous poisonous in poultry, which was previously seldom observed, is now not rare.

Prof. Glage, of Hamburg, summarises his experience of this condition, which he has not yet had the opportunity of observing except in poultry. Poultry seem to have a great appetite for phosphorous as soon as it is accessible to them, for as a rule single birds are not affected. A great number—

not uncommonly nearly the whole stock—are almost always poisoned together. In many of Glage's cases this had led to the suspicion of contagious disease as the cause of death.

Glage adds nothing to the classic descriptions of the symptoms of phosphorous poisoning during life. He remarks, however, upon its rapid course. Often many birds die in a few hours; and in one case a whole stock of eleven fowls died within twenty-four hours.

The post-mortem appearances are very characteristic. The ingesta, especially the contents of the crop and gizzard, possess a strong smell of phosphorous, such as used to accompany the kindling of the phosphorous lucifer matches which were formerly used. Not uncommonly, when the crop is opened, white fumes are seen arising from its contents. The organs, also, and even the blood of the heart, give off the characteristic odour of phosphorous, though not to so high a degree as the contents of the crop and gizzard. Luminosity of the ingesta, in Glage's experience, is less frequently observed. Of the organic lesions, apart from local inflammatory changes of the alimentary mucous membrane, a very well-marked fatty degeneration of the parenchymatous organs is always the most prominent.

The proportion of phosphorous in rat poison is naturally large, and the fowls poisoned by it certainly received much more than the lethal dose. The whole body, especially the contents of the crop, was so charged with phosphorous that in every one of Glage's cases the lesions were very marked. When the history, the lesions, and the characteristic smell of phosphorous alike indicate this as the cause of death, Glage considers chemical examination superfluous; but nevertheless he has always undertaken it to render his diagnosis incontestable. For this purpose he recommends the method of Scheerer, which is based upon the reducibility of silver salts by phosphorous and phosphoric acids.—(*Berliner Tier. Woch.*)

SPIROCHÆTÆ IN THE GASTRIC MUCOUS MEMBRANE OF THE DOG.

Regaud has already discovered and reported the common presence of spirochætæ analogous to those of syphilis in the normal gastric mucous membrane of the dog and cat. Ball and Roquet now report (*Journal de Méd. Vét.*) the result of examinations of the stomachs and intestines of dogs which they have made with a view of determining whether any relation exists between these parasites and the hæmorrhagic gastro-enteric affections of the dog.

These authors propose to call the parasite in question *Spirochæte Regaudi*, after its discoverer. They consider, however, that these spirochætæ have no relation with hæmorrhagic gastro-enteritis, and in this opinion they are supported by Lucet. The spirochætæ are commonly found in the mucous membrane, and are as frequent in normal stomachs as in those showing inflammatory and hæmorrhagic lesions.

The organisms are observed in two forms—long forms showing seven to twelve spirals, and short

ones showing two to six spirals. Preparations obtained by scraping the mucous membrane may be quickly and easily stained by the following procedure. (1) Make a saturated solution of methyl violet 5 B in absolute alcohol. (2) Place from ten to twenty drops of this saturated solution in 10 c.c. of distilled water, and then filter. (3) Stain the preparations, previously fixed by heat or by a mixture of equal parts of absolute alcohol and ether, for from five to ten minutes.

By this method the spirochætæ are stained a dark violet. A 1/6 inch objective may be employed for their examination; but an immersion lens is preferable.—(*Annales de Méd. Vét.*)

W. R. C.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION

The largest attendance secured at a meeting of the Association for some years foregathered at the Albion Hotel, Lincoln, on Friday, Oct. 20th, under the presidency of Mr. W. Grasby, of Daventry, the chief attraction being a demonstration and address by Prof. F. Hobday, upon Dr. Williams' operation for roaring in horses. Supporting the President were Messrs. T. Holmes, Bourne; and G. B. Dickinson, Boston, Vice-Presidents; F. L. Gooch, Stamford; C. Hartley, and C. Hartley, junr., Lincoln; T. Hicks and A. D. Lalor, Sleaford; G. Lockwood, J. Mackinder, Peterborough; J. H. Poles, Whittlesey; T. A. Rudkin, Grantham; T. B. Bindloss, Long Sutton; T. J. Keall, Gainsborough; the visitors including Messrs. L. A. Leach, junr., F. B. Gresham, R. C. Matthews, A. R. Roulledge, Louth.

The Hon. Sec. (Mr. C. W. Townsend) was prevented from being present owing to having met with a serious accident a few days before, and the meeting was unanimous in an expression of sympathy with him at its occurrence and hoped for a speedy recovery.

The minutes as published in *The Veterinary Record* were taken as read.

THE KIRK APPEAL FUND.

The President read a letter from Mr. H. A. Woodruff, pressing the case of Mr. Wm. Kirk in the appeal raised by the London County Council to compel veterinary surgeons to pay for the use of the College crest.

Mr. J. MACKINDER said he had written the Inland Revenue on the matter and they said there was no liability.

Mr. GOOCH said he hoped that would be made public, as a veterinary surgeon had been fined for using the crest.

On the proposition of Mr. Holmes, seconded by Mr. Lalor, it was decided that subscriptions should be left to the inclinations of the members.

THE PROPOSED AMALGAMATION.

Two letters were read from Mr. A. Gofton, the Hon. Sec. of the Royal (Dick) Veterinary College, Edinburgh, with regard to the proposed amalgamation of Veterinary Societies.

The President said the Lincolnshire Society had already expressed its approval of becoming affiliated to the National Association in accordance with the new rules, and on the motion of Mr. Gooch, seconded by Mr. Holmes, this was confirmed, the Secretary to inform Mr. Gofton of the fact.

NEW MEMBERS.

Mr. HENRY LEACH, Boston, was elected a member of the Association, on proposition of Mr. C. Hartley seconded by the President.

Messrs. F. W. MEDLOCK, Peterborough, and A. C. COMERFORD, Caxton, Cambs., proposed at the Peterborough meeting in June, were duly balloted for and elected members.

Mr. R. C. MATTHEWS, Metheringham, was nominated as a member by Mr. Holmes, seconded by Mr. Lalor.

THE VALUE OF THE VENTICLE STRIPPING OPERATION FOR ROARING IN HORSES.

By Prof. FREDK. HOBDAY, F.R.C.V.S., F.R.S.E.

Gentlemen,—My address to you to-day will be a very short one. You have in the last two years heard much about it; yet in reality the real interest in the operation I bring before you lies all in front, and in fact the operation is only in its trial stage. It is the ventricle stripping operation for the relief of roaring. Within the last two hunting seasons—now entering the third—I have operated upon more than 480 patients. About March I shall be able to give to the profession some statistics which may be of value, if only they show that a reasonable proportion of useless animals have been made useful, and then I shall maintain that the operation is justifiable, and if, in addition to satisfying the owners, one can also satisfy the members of the profession then the results will be doubly justified.

Up to the present the results which have been published are sufficiently good to make one assert very emphatically that the operation has come to stay, and to take its proper place as one of those which the modern veterinarian may recommend to his client, affording, as it does, a reasonable prospect of alleviating a very distressful condition, even if not effecting a complete cure.

The actual technique of the operation has already been described before various societies, and in the journals; on the first occasion by Williams, in the paper he read before the American Veterinary Association in 1906, and although there have been some few modifications, especially in the avoidance of injury to the cartilage, the principles are still the same. I must lay claim to a few originalities in these modifications, and I find upon recently discussing the operation with Dr. Williams that Dr. Cary and certain operators on the other side of the Atlantic were working at the same idea at about, if not at, the same time. I refer principally to the idea of operating only through the crico-thyroid ligament without injuring either the thyroid or cricoid cartilage, and to the stripping of both ventricles.

In reference to the latter I have altogether operated now upon over 480 individual horses, more than 200 of which have systematically had the double stripping operation done at the one and the same time, but unluckily such a large proportion of them will not be tested until the next season's hunting commences that I cannot in the present paper give you statistics as to the actual results. I will, however, promise that you shall have them presently.

I am undecided for the moment as to whether it is wiser to strip both at the one time, or to do the left or the paralysed side first, see the result, and then, if necessary, operate on the other some months later. I have about 20 horses now upon which this plan has been adopted, and certainly in some of them the results have been marvellous. They were all hunters and bad roarsers, and the stripping of the left side alleviated the distress, although they still make considerable noise, whilst the second operation some months later has caused still further amelioration, and in at least two cases has enabled the animals to pass veterinary examinations for soundness in wind without comment. It is a plan I have adopted recently in several instances where the horses were of great monetary value, and the time was of no particular object provided the risk was lessened. Everybody, owner and groom alike, dislike the idea of the permanent use of the tracheotomy tube,

partly because of the constant trouble of cleansing, and partly on account of granulations and subsequent stenosis which so often follow as a sequel, and numbers of owners have volunteered the statement that if this operation only saves the animal so that it can work without distress, even if still making a noise, they will have it done. Others have gone so far as to say that even if it only gives them one more hunting season, and the tube has to be inserted eventually they will be grateful.

The operations, however, promise more than this, and I don't think I am exaggerating one bit when I say that it will restore to usefulness quite 90 per cent. of carriage or draught horses, and 75 per cent. of hunters, and that a decent proportion of these shall in addition pass the average veterinary surgeon's examination for soundness in wind. I believe, too, the effect is generally lasting and permanent, as there are now a number under observation in England which have been done about two years, and whose owners assert that they are still satisfactory as to wind.

It has been of particular interest to note the complete adhesion of the ventricle in the cases in which I opened the larynx a second time. Certainly there were some in which the result appeared to be all I could have desired with the left side, and yet the horses made considerable noise until the right ventricle had been treated in the same way. But in others there had not been complete closure, and at the top end there was enough orifice to admit the end of the middle or fore finger.

In regard to early interference I have hesitated to advise owners to have an animal done which was only a slight whistler, but several have had them done on their own initiative, and I must say that the results have certainly been excellent, and several horses have been reported afterwards, when tested, to be sound in wind. I have at the end of the hunting season done a fair number which were only reported as whistlers, but my statistics on the point cannot be complete until more time has elapsed.

I say this advisedly because if chondritis proves at all a sequel to be dreaded even by the most careful operator, then I maintain that it will be better to advise an owner with a whistler, which is not distressed and does not cause great annoyance, to work that horse another season, or until he really is a roarer. If on the other hand, a great proportion of these whistlers become sound horses in so far as their wind is concerned, and the result is permanent, I shall certainly advise in the future that the operation is done in the early stages of the disease.

I mention the fear of the chondritis afterwards because it is a very serious factor to consider, and I know, too, that it was the great bugbear to Möller, Cadiot, Flannery, Fred. Smith, Axe, Raymond, and others who performed arytenoidectomy, but until the end of May this year (over 18 months since the first operation was demonstrated in England) I had never met with a single case, or even suspicions of it. In the month of May last I saw three cases, and one other was reported to me, in all of which the larynx had become distinctly enlarged and very hard, in fact ossified, as a sequel to the operation. In three of these I verified the fact by cutting down to the larynx and exposing it. None of the horses have yet died, so that I have no larynx to show you. I decided not to open it nor to look inside, as I was afraid I might not get the wound to heal again, and two of the horses were useful enough and could gallop without distress, although making considerable noise. Two of these had had the left ventricle alone stripped, and the other two had been through the bilateral operation. The other two had begun to develop symptoms of dyspnoea when galloped, and before being hunted again would certainly have to be tubed.

I mentioned above that I did not re-open the ossified

larynx, as I feared it might not heal readily, and my reason for this was that I knew that sometimes a troublesome sinus formed which was very difficult to close, in fact one such instance had occurred amongst my own cases.

I have thought from observations made that to assist in avoiding both the above complications, the patients should not afterwards be turned out to grass, but be manged fed, partly because of the dependent position of the head during grazing, and partly because of the continuous movement of the muscle of the larynx and throat for so long a period of the day as is necessitated by a horse turned out to pasture. Until the parts of the injured larynx be completely cicatrized I think it to be very essential that this organ and its surrounding muscles and other structures should be allowed as much rest as possible.

Of the bad sequelae likely to follow as the result of the operation, in addition to the fear of chondritis and a troublesome sinus, as mentioned above, my own experience has brought me in contact with deaths from asphyxia and from septicæmia, and of each I have had two instances. Until case No. 206, I never had the slightest anxiety or trouble, but this one broke the record by dying of septicæmia. It was a troop horse in a cavalry regiment, and the veterinary officer (Capt. Hylton Jolliffe, F.R.C.V.S.) and myself thought that we should get a better and quicker adhesion of the right vocal cord (which moved freely) by performing tracheotomy at the same time. This we did, but my knowledge of physiology was defective or I should have known that the mere fact of respiratory air passing in and out of the tubes of the trachea made no difference whatever to the movement of the vocal cord. A septic infection took place—a condition which might of course have occurred as the sequel to any operation, and the patient died on the fifth day afterwards. The second septicæmia case also died on the 5th day.

The deaths from asphyxia are worth recording, because they will prove a warning to other operators to carefully watch the case during the 48 hours after the operation. Both were horses which had previously worn tracheotomy tubes for some time, and in one case there was extensive stenosis of the trachea. I ought to have left the tubes in until after they had become convalescent from the laryngeal wound, but in the one case I allowed it to heal up before operating, and in the other case I purposely closed it up at the same time that the ventricle mucous membranes were stripped. In each case a very sudden spasm of the larynx appeared to take place, and death occurred in a few minutes from asphyxia before tracheotomy could be performed, or even a laryngeal tube inserted.

Since introducing the double stripping operation as a routine measure, tracheotomy has had to be performed several times owing to threatened asphyxia, and the tube left *in situ* for an average period of three or four days, but this is a comparatively minor matter in a hunter, although annoying in a show animal, and the use of a laryngeal tube is better. I have had one made with flattened sides so that the vocal cords do not become impinged upon more than is necessary, for fear of ulceration or abrasion. All these occurred after double stripping, and usually within 24 hours, but we always keep the patient under close observation for 48 hours, and in two instances no disturbance of respiration occurred until the third day afterwards, although these were not alarming enough to necessitate tracheotomy.

The earliest time at which symptoms of dyspnoea occurred was three hours afterwards, but the majority showed signs of trouble between the 5th and 12th hours. The dyspnoea, œdema and swelling of the vocal cords are due to a sudden spasm or paralysis of those organs, and generally one has at least a couple of hours warning in the shape of disturbed and noisy breathing which

gradually becomes dyspnoeic. Tracheotomy gives instant relief, and the horse in half an hour is usually feeding calmly as if nothing had happened.

It would be impossible in a short paper like this to take note of every side of the question, but I am often asked whether a horse which is known to have been so treated should be passed as sound. That they had been, and that many more will be, I am quite convinced, for I will defy even a veterinary surgeon to detect this scar in fully 80% of the patients six months after the operation, and until three months ago I would certainly have advised a client that a hunter which had been operated upon a period of six months earlier for roaring, and was now noiseless, would be worth more than a horse which had not been done and might go wrong in wind any time. Since seeing the four cases of chondritis and ossification of the larynx which I have alluded to above, I think it is only fair that we shall know more about the percentage of this sequel before offering too decisive an opinion.

Time and careful observation alone can settle the point, as also whether one is justified in operating upon a stallion or brood mare. For my own part I fully admit the hereditary aspect of the question. I also know full well that strangles plays an equally large share in the production of roars and whistlers. Eliminate these two factors, heredity and strangles, and one would almost banish roars off the face of the earth.

In reference to the detection of the fact whether an animal has been operated upon or not, as I have stated, it is often quite impossible to detect any scar, and even if one is present it is often almost indistinguishable from the curl in the hair which is often present in this situation. The only sure method I know is to make an effort to cause the horse to attempt to neigh. With a mare having a foal at foot, remove it and allow her to attempt to approach it; or, if possible, starve the subject for some hours and rattle a stable bucket within ear-shot; the resulting effort to neigh gives a totally different sound to that of a healthy horse, for the animal will either be dumb, or neigh with a peculiar muffled effect.

No operation cures every case upon which it is tried, and the operation for roaring is no exception to the rule, but the *technique* advised by our American colleague, Dr. Williams, has been so encouraging that we cannot but feel that we are at last upon the right trail, and that owners and veterinarians alike, not to mention the equine world itself, owe him a debt of gratitude for his dogged perseverance in the face of much discouragement and many difficulties. Let us all do our best to help him to work the matter to a finality, and let us make this an absolute, and so far as possible, a universal and uniform success.

During the delivery of his paper, Prof. Hobday, who had previously given a demonstration of the operation at Messrs. Hartley's yard at Friar Lane, read the following letter:

41, High Street, Dorking.
October 16th, 1911.

Dear Hobday,—I thought you would like to know how the chestnut horse is that you operated on for roaring before the S.C.V.S. He has been turned out about six months. I have had him in from grass about a fortnight and have driven him, but the ground has been too hard to give him what I call a distressing gallop. I have trotted him fast up some of our worst hills here, and all I can hear is a slight roughness. This young horse was a confirmed roarer, but I anticipate from the trial I have given at present that he will be a complete success.—Yours faithfully,

C. W. HOWARD.

Prof. HOBDAY was loudly cheered at the conclusion of his paper, and on the motion of Mr. C. Hartley, seconded by Mr. Rudkin, he was unanimously elected an Associate of the Lincolnshire Society, Mr. Hartley remarking that that was the highest honour they could confer upon him.

The PRESIDENT, in conveying the thanks of the members to Prof. Hobday, said that gentleman had probably had more experience in operating on horses than any other man, and they had been delighted with his operation to-day.

Mr. GOOCH seconded the vote of thanks, and said he had been pleased to be a witness of Prof. Hobday's skill as a surgeon that day. He did not think any man could have given such an anatomical display unless he were a good anatomist. Every detail had been carried out that day in a most minute way, and the paper Prof. Hobday had given them had been most concise and to the point. There was no doubt the operation had come to stay. It would be a relief to owner and animal, and he thought it should be persisted in, and that they should bring it to a finality to help their brethren across the Atlantic. Indeed, he thought the operation should be taught in their schools.

Mr. C. HARTLEY asked to be allowed to add his thanks to Professor Hobday for his masterly exhibition of surgical skill, and for the extremely lucid way in which he had explained the operation. They would keep a daily diary of the effect of the operation and duly report results.

Mr. G. B. DICKINSON said that as a Society they should be very proud in having the opportunity of seeing the operation performed, and they owed their thanks to Professor Hobday for the surgical detail he had gone into. How did they stand, he would like to know, with their clients when they found a horse had been operated on in this manner? Would they be justified in saying such a horse was sound, or were they in duty bound to say the animal had been operated on for some throat affection?

Mr. G. LOCKWOOD said he felt very pleased that he had been privileged to witness the operation under such favourable circumstances and with such a skilled demonstrator, and at the same time their thanks were due to Mr. Hartley for his cordial reception that day. He should like to ask Prof. Hobday if he had any difficulty in administering the anaesthetic in cases where he performed tracheotomy.

Mr. J. MACKINDER said that was not the first operation of the kind he had seen performed, for he remembered it being done by Capt. Smith at Newcastle, and by Prof. Axe. He should be glad to hear of the results in this case, and he hoped the operation would be effective. He was getting older, but he hoped to live to see younger men with more nerve performing the operation.

Mr. RUDKIN also congratulated Prof. Hobday on his operation, adding that he wished they all had his operating skill.

Mr. HARTLEY said some people did not speak favourably of the operation, but he felt convinced it should be persisted in.

Prof. HOBDAY remarked that the fact that owners were satisfied with the results of the operation was a great point in its favour.

Mr. RUDKIN asked how they would stand in a Court of Law with regard to an animal which had undergone such an operation? Could they pass an animal as sound that made any noise whatever?

Mr. DICKINSON thought that an important point. If they found any indication of the operation having been performed on an animal were they justified in passing it as sound.

Mr. RUDKIN: If it makes no noise you pass it for wind.

Mr. HARTLEY said if he knew a horse had had an operation and was sound in his wind he should say so, but he could not pass him as sound. He might say there was no evidence of unsoundness, but that he had lost his mucous membrane.

Mr. ROUTLEDGE said he had a similar operation on a six-year-old horse 15 months ago which grunted if a fly got on him. He still made a noise, but he was neither a whistler nor a roarer. He was three miles an hour better in speed. The noise he made was neither inspiratory or expiratory. He certainly made a noise before, but now was a good hunter.

The PRESIDENT said he had been connected with five or six horses which Prof. Hobday had operated upon, and generally the operation had been an unqualified success. He thought that affected horses should be operated on when young. As to giving a certificate after an operation, he thought if they found a horse was subsequently sound in his wind, then no judge could find fault with them. They owed their thanks to Mr. Hartley for use of his yard and to Mr. Lockwood for producing the subjects they had had that day.

Prof. HOBDAY, in reply to Mr. Lockwood's question, said he generally gave the anæsthetic in cotton wool on the tubes. It was not absolutely necessary to give chloroform. If a horse was no better he was no worse after tracheotomy. He had just returned from a trip to America and Canada where the operation was very highly spoken of, and he knew cases where the value of the horse treated had been increased. As to any legal point which might arise he thought that where a horse had been operated upon the owner or purchaser should be apprised of the fact. He had known four cases where ossification of the larynx had set in, but he

did not think it would after six months. If he came across a good horse that had been operated upon he should tell the prospective owner and advise him to buy him.

Mr. HARTLEY: But you must give documentary evidence.

Prof. HOBDAY: Then you may say he is sound.

Mr. HARTLEY: But is he a sound and perfect animal?

Prof. HOBDAY: Is any animal a sound and perfect animal.

Mr. HARTLEY: But can we say so?

Prof. HOBDAY: Take a horse with a splint. You make him sound.

On the proposition of Mr. Dickinson, seconded by Mr. Hartley, Prof. Hobday was heartily thanked.

Mr. J. MACKINDER proposed a cordial vote of thanks to Mr. Hartley for the accommodation he had given the Society, which was carried with acclamation; Mr. Hartley saying they were perfectly welcome to any service he could render.

The meeting closed with a vote of thanks to the President, who expressed his pleasure at the great success of the meeting, and the company adjourned for tea.

C. W. TOWNSEND, Hon. Sec.

Deaths from Acorn Poisoning

At one farm near Market Drayton five animals have succumbed, four at another, and three at a third, while several single cases are reported. The acorns are unusually plentiful this year, and, grass is scarce. Only a few affected beasts recover. M.T.J.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.		Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.	
		Outbreaks		Animals				(including Farcy)		Counties Affected			
		Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Anim-als.	Out-breaks	Anim-als.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.
Gr. BRITAIN. Week ended Oct. 28		13		14			11	24			1	45	960
Corresponding week in		1910	32	39			4	12	Essex 7		2	41	486
		1909	25	28			10	20			3	28	252
		1908	19	21			11	20	London 13	8	32	213	
Total for 43 weeks, 1911		723		892		18	467	177	419	Middlesex 4	316	2081	24815
Corresponding period in		1910	1206	1432	2	15	317	923	361		1214	11187	
		1909	1072	1407			453	1588	492		1413	12699	
		1908	899	1189	3	112	684	2113	660	1720	10545		

Board of Agriculture and Fisheries, Oct. 31, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Oct. 28	...	...	...	...	...	...	1	4	1	28
Corresponding Week in											
1910	...	2	2	...	...	...	...	...	7	1	...
1909	...	...	...	...	...	...	...	...	7	...	...
1908	...	...	...	...	...	...	...	...	5	3	22
Total for 43 weeks, 1911	...	7	14	...	...	2	3	53	281	113	1923
Corresponding period in											
1910	...	7	10	...	...	1	2	62	382	78	1778
1909	...	8	8	...	...	...	...	69	323	86	1561
1908	...	7	10	...	...	...	...	34	293	151	3491

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 30, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Changes at the Board of Agriculture.

Earl Carrington has retired from the presidency of the Board of Agriculture, and takes up the office of Lord Privy Seal, while Sir Edward Strachey, the Parliamentary Secretary of the Board, is elevated to the peerage. The new President of the Board is the Right Hon. Walter Runciman, formerly President of the Board of Education, and the new Parliamentary Secretary is Lord Lucas, who has occupied the positions of Under-Secretary of the War Department and Under-Secretary for the Colonies.

There is no doubt that in Earl Carrington and Sir Edward Strachey agriculture possessed two influential representatives on whom much work has fallen as the result of recent developments. Both are practically acquainted with the industry which they represented, and on the most important subjects it was safe in their hands. They may have differed in some of their views, but were agreed on leading questions. They were agreed as to the importance of live stock, and it is certain that their power and influence were used to prevent unnecessary dangers of disease from imports. One reads that Lord Carrington incurred opposition in some quarters because he would not force on the scheme for extending small holdings beyond what in his opinion was safe. To practical agriculturists the idea rather is that, proceeding in the light of his personal and exceptional experience, he placed more reliance on the extension of the small-holdings system than is justified under the conditions existing in the country. Apart from this, Lord Carrington is one of the most enlightened and experienced landowners in the country, and his views on any agricultural subject must always command respect. Sir E. Strachey has always held sound views on most agricultural matters. He is personally well acquainted with the subject, and is in close touch with the agriculturists of the West of England. On dairying matters especially his opinions are always reliable, and in fact one can generally recognise in his utterances a well-informed judgment. Both these public men have rendered good service to agriculture, and their influence will doubtless continue to be exercised in favour of its claims.

It will be so far an advantage, however, to again have the President of the Board in the House of Commons. Mr. Runciman, the new President, is little known in connection with agriculture, but he is a brilliant member of his party, and it is quite probable that his work at the Board of Education may stand him in good stead in the new office, as one of the aims of the future is evidently to be to systematise agricultural education. Lord Lucas, the Parliamentary Secretary of the Board, has had experience at the War Office and at the Colonial Office. He is also an agriculturist and a successful exhibitor of live stock.

It is to be hoped that the new appointments do not indicate any great change of policy, but rather a careful and vigorous carrying out of the methods that have been pursued since the Board was instituted. In recent years, especially in connection with the Development Fund, the duties of the Board have been increased, but there has been so far nothing very revolutionary in its action, unless in the efforts to stimulate the small-holdings movement, as to the ultimate success of which there is considerable scepticism among those who know most about the practical business of agriculture. It will therefore be well to hasten slowly in the direction of the artificial creation of a class of occupiers who are not very well qualified to grapple with difficulties of adverse seasons and low prices. The existing laws against the importation of live stock diseases should be maintained and strengthened. What may be done in connection with the promotion of live stock breeding

remains to be seen, but so far the lines that have already been laid down have been followed, and it is not likely that rash experiments will be tried. The work of the Royal Commission on Horse Breeding has been continued and expanded, but it is to soon to reckon up the results. The plan adopted in Ireland will probably be followed when a stimulus is extended to the improvement of other varieties of stock.

When the Board was instituted the chief aim of those agriculturists who supported the proposal and rendered it possible was to have in the House of Commons a Minister directly representative of the industry and responsible for his Department. Prior to that time the official representative was the Lord President of the Council, whose chief duty related to education. Sometimes an agriculturist of eminence was President, notably the late Duke of Richmond and the late Earl Spencer, and in these circumstances agriculture was efficiently looked after. But when the position was filled by a politician not in any way connected with the industry, and having little sympathy with it, the chances of adequate consideration were remote. It was to get rid of this uncertainty that the establishment of the Board was supported.

Under the old régime two branches had been developed in a highly satisfactory manner—the one dealing with diseases of animals, and the other with the collection and publication of statistics, and under the Board both have rendered excellent service. The Statistical Department has become one of the best in any country. No less will be said for the Veterinary Department.

Ministers may come and go, but the officers who under able direction carry out the important duties just referred to are those who give most assistance to farmers in the daily conduct of their business, though no doubt they are much helped and encouraged by the support and intelligent appreciation of the official heads of the Board.—*Live Stock Journal*.

GLASGOW VETERINARY COLLEGE (INCORPORATED.)

ADVANCE IN VETERINARY AND MEDICAL SCIENCE.—Address delivered at the opening of Session by Dr. DAVID N. KNOX, President of the Royal Faculty of Physicians and Surgeons of Glasgow.

It gives me the very greatest pleasure to come here and give the introductory lecture to the students now beginning a new session at the Veterinary College, and that for two reasons. In the first place, as President of the Royal Faculty of Physicians and Surgeons, I wish to show the great interest which the Faculty entertains towards this College and the work of the veterinary profession, and, second, because about thirty years ago I was one of the professors of this college, and did what I then could to help your distinguished Principal to impart the necessary instruction to candidates for the M.R.C.V.S. It now gives me, after this long interval, very great pleasure to return even if but for an hour to this lecture room to congratulate Principal McCall and you, the students, on the new era that has opened for the College, the greater facilities for instruction that have now been provided, and the new additions to the curriculum that have been made since my time.

MEDICINE AND SURGERY INDIVISIBLE.

All medical men who have ever been engaged in teaching or research—that is, all who have ever done more than merely try to make a living by their profession—know that the great science of medicine and surgery is one and indivisible, and that there is no gulf between human and veterinary medicine. There are specialities, demanding special technical instruction and

experience for their highest fulfilment in practice, but they are based on scientific principles and investigations, scientific methods of study and of treatment common to both. Further, each department of study on the human or veterinary side sheds the greatest light on the similar department of the other. As a former teacher of human anatomy I often found that some obscure structure in the human body was brilliantly illuminated when the details of the same structure in the domestic animals were fully investigated. In embryology especially was this the case, many of the details of foetal life and structure being only possible of thorough examination and understanding when studied in animals. In all departments of veterinary medicine and pathology the same principle holds good. The veterinarian is constantly deriving benefit from the work of the human pathologist, as well as conferring benefits in return on his medical brethren. It is thus quite impossible to separate the two branches of study or to distinguish between the education of the two sets of practitioners. The veterinary surgeon must be as highly trained as the medical in all subjects common to him and the ordinary medical practitioner, while in the more purely special subjects of the veterinary surgeon he ought to be even more highly trained than the medical, if that be possible. This is an idea of mine formerly expressed, I think, in this very room, and I have seen no reason to change it. It is based on the fact that the veterinary surgeon gets no great assistance in diagnosis or even as to the results of treatment from his patients. They cannot tell him where they feel pain, or when their illness began, or what part of the body is affected. This must be found out unaided by the practitioner, guided by his scientific knowledge of anatomy, physiology, and pathology. It is thus obvious that to be successful in his work the veterinary practitioner must have a thorough scientific knowledge of his profession always at his finger-tips. The student must therefore seek while in the dissecting-room or hospital to imprint an accurate and lasting picture of what he sees in his mind. He must be able to put his finger on any part of his patient's body and tell what structures lie below, what are the normal functions of the tissues or organ, and when the slightest abnormality is detected, recognise the changes taking place with their local and general significance. To do this successfully requires high scientific attainments, supported and emphasised by large and wide experience. The same knowledge is required of the medical man, but his patients can often give him the greatest possible assistance by what they tell him and by the facility with which they can be examined. I think, therefore, you will see what a grand and noble profession the veterinary one is when practised as it should be, and what a great responsibility lies on all students so to spend not merely their days here at college, but their whole life in the endeavour to attain to this high standard.

NO BACTERIOLOGY THIRTY YEARS AGO.

In looking over the Calendar of the College I notice that there is a class now taught that was not taught in my time, viz., Bacteriology. Thirty years ago there was no science of bacteriology, in fact the whole subject was unknown. It is true that certain scattered observations had been made by different people at different times, but they were few and far between, and nobody had the slightest notion that they were or could be co-related. Lady Mary Wortley Montague, in her letters from Turkey, had told us more than a hundred years ago of the alleged value of inoculation of the poison of small-pox in reducing the dreadful severity of that then very common disease. But when inoculation was tried in this country it was found to be not only almost valueless but most dangerous, and had to be given up. Then Edward Jenner discovered the virtues of vaccination,

and this is still practised, with the best results. No one till quite recently thought these two discoveries had any close relation to each other, still less that the failure of the one and the success of the other could be explained scientifically and as part of a general principle. The next observation of value in point of time was Pasteur's great discovery and demonstration of the nature of fermentation. It seems a great puzzle for anybody to believe that this process of fermentation had any relation to the processes of inoculation and vaccination—if it stood alone. But these three processes were the first shafts of light that heralded the dawn of the new science of bacteriology.

LISTER'S DISCOVERIES.

Lord Lister, then a surgeon in our Glasgow Royal Infirmary, was the first who had the penetration to perceive that more lay behind Pasteur's discovery than even Pasteur himself had dreamt of. Pasteur was a chemist, and had attacked the problem of fermentation from the chemical side, though he soon discovered that the process was biological and not chemical. Lister was a great physiologist, and had, therefore, a wider outlook on biology than Pasteur had. He soon, by the aid of the microscope, was able to prove that the putrefaction of pus, so common in his practice then, was a similar or even identical process with Pasteur's fermentation. He then proceeded to reason out the process: he found that germs, or at least living particles, entered open wounds from the air and multiplied in the discharges, producing not merely a foul smell, but also producing a material that was absorbed into the blood vessels which set up fever, secondary abscesses, or foci of inflammation, and then death by poisoning of the nerve centres. Lister's knowledge, at least as expounded to us students by himself, was still very meagre. He still believed in "laudable" pus as a healthy excretion from certain tissues, and his first efforts in treatment were to prevent this pus from becoming putrid by the intrusion of germs or organic particles from the air. He frequently demonstrated these germs as movable vibratory bodies easily seen under a low power of the microscope. He then went a step further and excluded the "motes of the sunbeam" from any wound freshly made, and in many cases found that pus did not form at all, while in other cases it did form. These successes and apparent failures made him investigate the whole process of inflammation and suppuration anew, with most important results. This investigation was a long and complicated process—in fact at first a mere groping in the dark. His first endeavour was to secure healing of wounds by what some of you know is called first intention, that is, without any symptom of inflammation or the formation of matter, and after many experiments he proved that if the dust-laden air could be excluded from or filtered before it entered a freshly made wound no sign of inflammation or suppuration would be set up, and that the wound would heal most kindly and quickly even when operations of the greatest severity were performed, or were performed on tissues and organs like the peritoneum or the brain, which up till then it had been absolutely fatal to touch with a knife. He proved that the skin of the patient and the atmosphere around were full of germs, called in a general way bacteria, and that if these could be killed or removed thoroughly the surgeon could almost do what he liked in the way of successful operations. This was the theory of what he called antiseptic surgery.

Lister soon found, however, that his system was not perfect in practice, however perfect it seemed in theory. His methods were far from being sufficient in spite of the ingenuity and skill exercised in devising them. A great deal of the success of the operations seemed to depend on the health and varying powers of resistance of the tissues, as well as on the atmosphere and even the kind

of building in which an operation was performed. Further, it was found that in suppuration occurring without any apparent external wound, the pus contained in such abscesses, while it might not contain any of the germs of putrefaction, contained other germs of different types, and which could only be found by the use of very high powers of the microscope. Such germs were speedily shown to have obtained entrance to the body by means of the air passages or other natural channels, and so to have permeated the whole body. Their presence weakened the tissues or found a nidus in some injured spot, especially in a wound, and these developed so rapidly as greatly to interfere with the success of the surgeon's work. To counteract this and other possibilities leading to the entrance of germs to wounds, Lister methods were gradually improved, especially by continental surgeons. The body of the patient, the hands of the surgeon, his instruments and dressings were sterilised. New operating theatres were built which had never been polluted by septic materials, and the new era of Aseptic Surgery was introduced.

Let us again return to putrefaction. On this process being more carefully examined, especially in the light of further investigations, by Pasteur and the experiments of Lister, it was seen that a great variety of germs were concerned in it. Further, that many of these germs were able to live in the bodies of men and animals, and therein to give rise apparently to various forms of disease. Immediately pathologists in all parts of the world set to work to elucidate the life histories of these germs and to classify them according to their more important differences. Such observations were astonishingly rich in results. Certain diseases, called hospital diseases, were at once explained as the result of the intrusion of certain germs into the body. I refer to such diseases as erysipelas, blood-poisoning, diphtheria, tuberculosis, and anthrax both in man and animals. Inflammation was seen to be in the beginning a reaction against the intrusion of such germs, while the death of tissue and suppuration indicated the failure of such reaction and the intoxication of the system or the tissues by the powerful virus produced by these germs. Further, such germs were found to be transmissible from man to man, some from animals to men, and others from men to animals. Such transmission enlightened us as to the meaning of infection and contagion, words that had for long been used vaguely and ignorantly, but now became precise and scientific. By the word scientific I mean that our knowledge is now based on facts and no longer on theories that the discoveries of to-morrow may require us to give up and unlearn. Our knowledge is being added to every day, and is far from being complete in any respect. Every observation and experiment made is immediately repeated by other observers and experimenters and approved or disproved or explained. One great source of information as to the nature and relations of germs comes from the results of cultivation. It was a great discovery when we found out that germs could be taken from the body and cultivated on a suitable soil in a suitable atmosphere and temperature. They could thus be isolated, their growth and development watched, and their effect when in the pure state they were injected into the living and healthy body. Then only it became possible to say definitely that certain diseases were always due to the growth in the body of certain germs; that the intrusion of a given germ, such as tubercle, would always produce some form of tuberculosis, and would produce no other disease; that in the same way the germ of anthrax, if inoculated, would certainly produce anthrax and nothing else. We then know in our medical practice that if a number of people are affected with small-pox that the disease is due in all the cases to the contagion of small-pox and to no other germ, and the medical officer of health at once acts on this knowledge in his efforts to combat the disease.

Another curious result from cultivation was arrived at. One would expect that after cultivation, by getting rid of impurities during the process, that the virulence of the poison *pro tanto* would be increased; and that is so. But if you take some of the first cultivation, put it again in a suitable medium, and cultivate it a second time, in is found that the poison is less virulent than before, and gets less and less virulent with each succeeding cultivation. In some cases these cultivation experiments can be performed in the bodies of animals with like results, the poison becoming less virulent in the second animal than in the first, and still less virulent in the third. This principle has always been employed in the case of vaccine matter. At first each child was vaccinated from another child, but now for obvious reasons it is found to be better to use the calf as the intermediary. The plan of producing a milder virus in this way is called the *attenuation* of the virus, and it is found in practice that a weak virus may be injected into a healthy animal without producing any marked effect. But on experiment it is found that an animal so treated is no longer susceptible to the stronger virus; that is, an animal which might have been killed by a dose of strong virus will suffer but little if, previous to this injection of a strong virus, the animal has been treated by the injection of the attenuated virus. Such an animal is therefore said to be immune or protected by these mild injections. This is a most important principle, and has given rise to many of the processes adopted by surgeons and veterinary surgeons in the diagnosis and treatment of infective or contagious diseases.

TOXINS.

In producing this immunity the fluid filtrate from a culture of the germ is generally used, and is called the toxin. After the injection of a toxin into the body of an animal, and especially after several such injections, it is found that in the blood serum of that animal substances make their appearance which can neutralise the poisonous action of the toxin. These substances are found in the serum, and this serum, so enriched after being separated from the clot, is made use of as an antidote to the toxin, and is called the anti-toxin in popular language. The toxin of a disease may be produced in the body of the animal, producing all the symptoms of the disease, but when the antitoxin is timeously injected the toxin may be neutralised and the symptoms subside. We often see this in diphtheria. In the case of diphtheria the animal used to produce this antitoxic serum in the horse, because a large quantity of serum may be obtained from a horse's blood, quite a number of which are maintained at the Institutes now established for the production of the various serums. A horse in perfect health is taken and is slowly habituated to the action of the toxin, beginning at first with very small doses of a weak toxin, and gradually day by day injecting larger doses of stronger toxins. By careful watching experienced observers know when the blood serum has reached its highest antitoxic value, and then the animal is bled from the jugular vein to the limits of safety. The serum is then separated under most rigid antiseptic precautions, and bottled up. The animal is then allowed a few months to recover, and then the process is repeated again and again. The valuable therapeutic fact is thus learnt that not only is the animal subjected to this process immunised, but if some of the serum is injected into another animal it also will be immunised. This forms the foundation for what is becoming a great department of therapeutics, equally applicable to men and animals, and usually spoken of as Serum Therapy.

IMMUNITY IN ANIMALS OR MAN.

I do not wish you to suppose that in *every case* in which we have isolated and cultivated the disease germ that we have as yet obtained a neutralising serum or

produced immunity in animals or man. The typical process, as given here, is true of diphtheria, typhoid fever, and in a less degree of tetanus—that is, immunity in tetanus may be obtained in animals, but only to a very slight degree in man. There is yet an enormous amount of work to be done to fill up the gaps in our knowledge, but when you think of the multitude of investigators who are engaged on the work, with the almost daily reports of successful experiment, it certainly cannot be long before further results of the utmost practical value to surgeons, physicians, and veterinarians are attained. This is a research that must be especially valuable to members of your profession in the immediate future. At present you are using what are probably the best, if not the only practicable, methods of controlling infective or epidemic diseases, by stamping them out by the very expensive and wasteful slaughter of infected animals. I saw a notice not long ago in the papers of a small epidemic in England being thus stamped out by the slaughter of 62 cattle. No one can call this a scientific method of treating disease. It is merely a makeshift to prevent a much greater loss, but it is after all only a testimony to our ignorance. It only requires steady, persistent investigation on what are now well-known lines, and the secret will be discovered whereby present expedients will be made unnecessary, the public health of the community freed from present dangers, the owner's pocket saved, and the veterinary surgeon reap a splendid pecuniary reward. I hope, therefore, that what I have said will excite your sympathy and stimulate you to join in the work of investigation and experiment. I have laid before you a very few of the points of a most fascinating story. The work done so far is the first volume only, so to speak, of a system of preventive medicine that seems likely before long to completely remodel the work, both of physicians and veterinary surgeons.

MALTA FEVER.

Another point in the life-story of disease germs is the paths by which they obtain entrance to the animal body. First, some obtain entrance through the air passages from the atmosphere. This is the case with that common disease called "influenza," the very name of which embodies the theory of its mode of infection. The same is also true of most of our specific fevers. The tubercle bacillus also in many cases may enter by this path, though owing to its universality it has other channels open to it. As tuberculosis is one of the diseases communicable from animals to man, a large number of cases of this disease in man arise by being carried by milk or other articles of diet into the alimentary canal, and thence spreading throughout the system. In preventing both of these methods of infection lies a great part of the work of veterinary surgeons and medical officers of health. With reference to the infection through milk I would like for a moment to refer to a quite recent discovery. There has been a fever known for at least 2000 years as occurring in Rome, Naples, Malta, and other places on the shores of the Mediterranean, and popularly known as Malta fever. The cause of this could not be discovered, and after much observation and elimination of all known causes it was only in 1887 that suspicion fell on the goats,* of which there are great numbers in the Island of Malta, and whose milk was commonly supplied to the inhabitants by the goat being milked before the door, so as to secure purity and freshness and to prevent any suspicion of contamination. An army medical officer, Col. Bruce, investigated the goats' milk, and proved conclusively that the fever was due to a germ contained in the milk. He further showed that about 50 per cent. of all the goats in the island were affected

with the disease, and were giving off the germs in myriads in their milk. Bruce's observations and experiments have been repeated by many others, and now there is no doubt as to the cause of Malta Fever. Henceforth no tourist landing for a few hours to see the famous island while his ship is coaling need fear to catch a fever that was for centuries supposed to be endemic, and which was practically universal among the permanent residents.

MOSQUITOS.

A still more interesting discovery was that mosquitos, which haunt all tropical marsh lands, lakes, and rivers, were the means of conveying the germs of malarial fever, from one man to another. Malarial fever is, as you know, the great scourge of all tropical climates, and the discovery has not only led to successful efforts being made for its prevention and treatment, but has also opened up further fields of research into the causes of yellow fever, sleeping sickness, and numerous other tropical diseases, both of men and animals. Here let me say that a young friend of my own who was holding an appointment in the Cape Mounted Police, South Africa, and frequently witnessed the work of veterinary surgeons inoculating cattle and horses against infective diseases, became so interested in the work that he threw up his appointment, and came home to study for the veterinary profession. He was a student in this College for one year, and then went to London. He returned after he got his diploma to South Africa with a Government appointment of much value. He has now gone to New Zealand, and is one of the principal veterinary surgeons of that progressive colony, and in Government employ.

A SUGGESTION.

I think I have now said enough on this part of my subject. I have merely adverted to a very few points, and that in the briefest possible way. I have tried, as I said, to engage your attention and excite your imagination over a very wonderful story of a department of medical study which lies at the basis of all true progress in public health. My remarks may furnish another moral, and give a hint, not so much to the students as to the governors of this College and to the veterinary profession, including the students. You know that in the medical profession we have a body of men who have undergone a special training, and have obtained a special diploma of Public Health, and who are the recognised officers of Public Health throughout the country. I would like to suggest that a similar body of veterinary D.P.H. should be instituted by your Royal College of Veterinary Surgeons. I am well aware that there is a Society already in existence called the Association of Veterinary Officers of Public Health—a Society that is doing, and has done, most excellent work in various places. I have no wish to depreciate the members of that Society. They are in the same position, however, that the early Medical Officers of Public Health were in Glasgow forty years ago—the period when the late Sir Wm. T. Gairdner and Dr. J. B. Russell were at the head of health matters, and who began the work that has since been so worthily carried on by their successors. These men were giants, and did giants' work. The ordinary medical practitioner is no more able to carry on their work successfully without special training than he can fly without a special aviation car. Your Association of Veterinary Officers of Public Health has doubtless great men among its members, fitted in every way for their work by their own self-training, but I am sure your profession would be as much benefited by a specially trained class of health officers as ours has been. I had the opportunity of reading a few days ago the proceedings of your Society at its annual conference in Edinburgh, and I was struck by the knowledge of the various Acts relating to byres, cowsheds, and dairies possessed by the

* It was nearly 20 years later that this connection was demonstrated.

speakers, by the accuracy and fullness of their reasoning as regards meat and milk inspection, and the relations of animal diseases such as tubercle to the general health of the community. I also saw, however, that the various speakers felt that for the success of their work something more was wanting. The Chairman suggested that as regards the inspection of meat "he felt confident that in time, as posts fell vacant or as public bodies became educated to the vast difference that existed between the man who had made a study of human diseases and the man who had made a study of animal diseases, especially those communicable to man, then they would see a change in the type of man appointed to supervise meat inspection." Now there is a great deal of truth in all that, but is it the whole truth? Are all veterinary surgeons, however skilled they may be in the diagnosis and treatment of animal diseases, equally skilled meat inspectors? I don't think Mr. Robb would say that they were. There is more wanting than that veterinarians should be appointed meat inspectors. Mr. Lindsay put his finger on the spot when he said, "In order that the district inspectors would be able to confirm their diagnosis in doubtful cases, a laboratory ought to be established by the central authority at some convenient place." This gives the whole difficulty away by admitting that there are doubtful cases where no man, however experienced, can with the naked eye and unaided by more scientific tests, recognise all incipient cases of disease, or should be trusted to pass milk or carcasses as in all cases fit for human food. Scientific laboratories are an absolute necessity of efficient inspection, and my proposal comes to this—that we should have a class of veterinary surgeons especially skilled and capable of working in such laboratories. I am afraid that at present, and for some time to come, the officials in such laboratories would mostly require to be found in the ranks of Medical Officers of Health. In fact, I do not see where else properly trained bacteriologists could be obtained, and until the veterinary profession wake up to the necessity of providing such training for their inspectors this difficulty will exist.

AN ALTERNATIVE.

If the veterinary surgeons here to-day think this too big an order to execute all at once—I mean to institute a veterinary D.P.H.—there is an alternative that might be easier of execution and which I should like to see this college undertake. It is to institute what might be called post-graduate courses in Public Health where veterinary surgeons might come and receive special practical training in public health work to fit them for special posts as inspectors, etc. This would require the setting up of a public health laboratory where specialised instruction in chemistry and bacteriology might be given, and this could be followed by a practical examination on the subjects taught. In every medical school there are such laboratories, and to a large extent they may be made self-supporting. Whether other subjects than these I have mentioned should be included in such a course will form matter for future consideration and arrangement, but the two subjects that I have mentioned seem of paramount importance, and they cannot be learnt from books or Acts of Parliament. I would like to see this college undertake such work, as I have not the slightest doubt it would redound to the credit of the college and increase the numbers of its students. Other colleges would be compelled to follow suit, and then the way would be paved for action by the R.C.V.S., and the granting of a diploma that would mark out its possessors as belonging to a specially high grade of the veterinary profession. I am the more inclined to make this suggestion as there can be no doubt that the number of inspectorships in this country is bound to increase, and the more lucrative posts will

go to the most highly-qualified men, while abroad there is certain to be an enormous demand in the future for veterinary surgeons, and there each man will require to have his own laboratory and be capable of doing all the work himself. What a splendid training for such work would be a six-months' course of laboratory work at a recognised college like this and under competent teachers!

[We are indebted to the Editor of *The North British Agriculturist* for advance proofs of this report.]

College Crest Appeal Fund.

Amount already acknowledged (Sept. 2)	£19	6	6
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Personal.

The Sanitary Committee of the Reigate Town Council reported that applications for the post of Veterinary Inspector of Cows had been received from:—Messrs. Walter Smithers, Dorking; Arnold Spicer, Oxted; and Chas. A. Squair, Reigate. The Committee recommended that Mr. Charles A. Squair be appointed. Mr. Squair has been veterinary inspector for 17 years.

We understand that there were 17 applicants, and the 3 mentioned in *The Surrey Mirror* was short leet

MOTOR CARS AND VETERINARY PRACTICE.

Sir,

In last week's issue of *The Veterinary Record* Mr. Taylor has been good enough to supply you with a short summary of one year's cost of running an 8 h.p. two-seater "Renault" car over 6750 miles.

This summary is altogether too short, and I would suggest that Mr. Taylor should complete the picture, so that it might be a reliable guide to those veterinary surgeons who contemplate purchasing a car.

As published, the account shows a running cost of less than 2d. per mile, but this will be more than doubled when he adds £50 for depreciation, £10 for interest on purchase price, and £15 for a man to wash up and trim the car.

I presume Mr. Taylor's car was new when bought, and anticipate that, like others, he will have cause in each succeeding year to considerably extend the amount under the item "sundries."—Yours faithfully,

HUGH BEGG.

Hamilton, Oct. 30.

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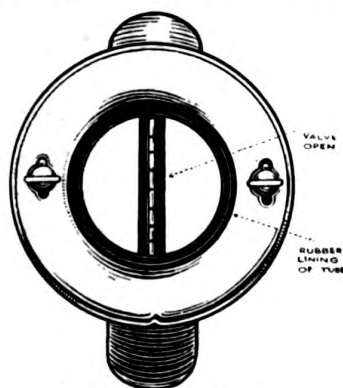
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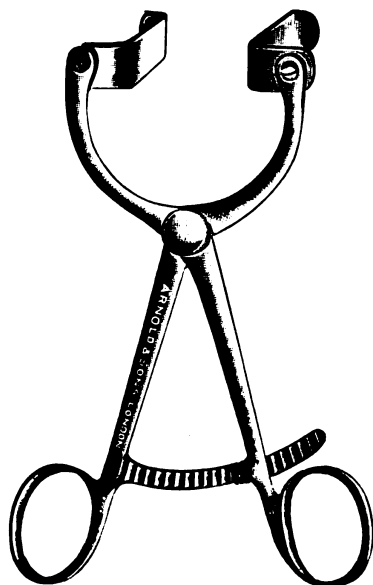
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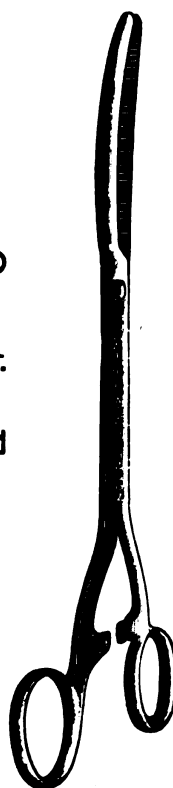


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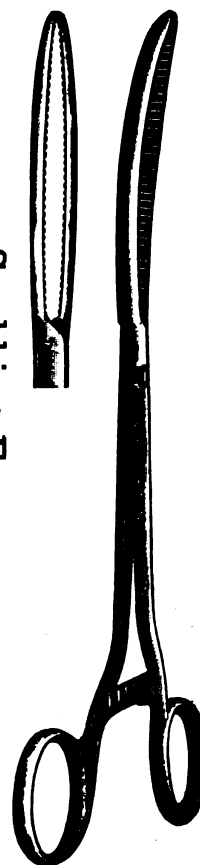


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A MEETING will be held at 10 Red Lion Square, London, W.C., on Friday, Nov. 24th. The chair will be taken by the President, E. J. Mellett, Esq., at 2-30 p.m. Agenda. Routine business: Election of officers; Appoint delegates to P. H. Congresses; Discuss affiliation with N.V.A. Paper by Prof. H. Woodruff, on "Urinary Calculi." Specimens and Cases of Interest.
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FUNDS are urgently needed to enable the Society to extend its relief to distressed Members of the Profession, or to widows and orphans of deceased veterinary surgeons. Annual subscriptions, or donations will be gratefully acknowledged by the Hon. Sec. and Treas.

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The number of places for these Courses is limited and early application must therefore be made to prevent disappointment. The next Course will begin on Monday, October 7th, and terminate on Friday, November 29th, 1912.

The College Calendar, containing full particulars, will be forwarded on application to

The Secretary,

Royal Veterinary College, Camden Town, N.W.

THE VETERINARY RECORD

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE PROPOSED SCOTCH BOARD OF AGRICULTURE.

The Government are contemplating a step which, however well intentioned, cannot fail to be detrimental to British agriculture. It is proposed to establish a separate Board of Agriculture for Scotland which, as one of its most important duties, is to administer the Contagious Diseases of Animals Acts throughout Scotland. It may be fully admitted that, as regards some departments of agricultural industry, there is something to be said in favour of transferring the administration of Scotch affairs to a Scotch authority. But we, as veterinary surgeons, are concerned only with our one very important department of the suppression of animal disease. In this, there is no doubt that the proposed division of authority, should it take place, will be a grave mistake.

Areas of country enclosed within one sea-line should, so far as the control of animal disease is concerned, be under one governing body. That has hitherto been done in Great Britain with good results, and in Ireland with even better. On the Continent, for obvious reasons, it cannot be done, and a great deal of the difficulty in repressing animal disease in Europe is due to the long lines of frontier with different regulations under different Governments on either side, dealing with questions in which, as has just been well said, "Absolute unanimity of treatment guided by one mind is essential for success." The Government's proposal will introduce the same difficulty into Great Britain, and it is with regard to outbreaks of disease occurring near the Border that its effects will be most marked.

In dealing with rapidly spreading epidemics such as foot-and-mouth disease, prompt decision and vigorous action—the latter perhaps extending considerable distances from the centre of the outbreak—are essential. These are possible under our present régime, as the success with which the repeated invasions of foot-and-mouth disease this year have been dealt with testifies. They would be impossible, in the long run, under the proposed new system. Different regulations would be established; differences of opinion regarding the restriction necessary would be certain to arise; and, worst of all, the two Boards might even disagree upon the nature of an outbreak of disease near the Border. In the end Scotch and English Agriculture alike would suffer, perhaps to an incalculable extent.

Agriculturists in both countries are alive to the dangers of the innovation. The Scottish Chamber of Agriculture, by a large majority has protested against it; and similar protests, so far unanimous,

have been sent in by agricultural associations in England.

There is yet time, in all probability, for vigorous concerted action by agriculturists to prevail upon the Government to drop this ill-considered proposal; and veterinary surgeons, so far as lies in their power, should endeavour to assist the agriculturists. Veterinary associations might join in the protest; and veterinary practitioners should certainly endeavour to stimulate the more locally influential of their agricultural clients to organised resistance. And finally, any practitioner having access to a Member of Parliament may now approach him on a subject of infinitely greater import to the profession and the nation than the redress of such minor veterinary grievances as those of motoring dues and jury service.

VETERINARY TRAINING FOR PUBLIC HEALTH WORK.

Dr. Knox's opening address at the Glasgow Veterinary School appeared in our pages last week. This week we reprint two notes upon it—one from *The Lancet*, which is mainly an echo of Dr. Knox's views, and the other a spirited comment by Prof. McCall. We are glad the veteran Principal of the Glasgow Veterinary School has spoken out; for both Dr. Knox's address and *The Lancet's* note illustrated a misconception which is very common amongst medical men.

Most medical men now acknowledge the need for an adequately trained State Veterinary Service. Very few seem to realise how much our profession has done to meet that need. Many, in fact, speak of laboratory instruction for veterinary surgeons, and the higher education of the profession, as if both were undertakings yet to be commenced; whereas both have long been in full vogue amongst us. Dr. Knox, in advising the Glasgow School to initiate post-graduate courses, seemed quite unaware that such courses have been established for years at various centres in England. Possibly Dr. Knox, and certainly many another medical man, would be surprised to hear from Prof. McCall that veterinary students for the diploma receive practical training in bacteriology and meat inspection at every school in the United Kingdom. And yet that state of things dates from the last century!

The ordinary professional veterinary curriculum is fully upon the scientific level of the medical one. The same may be said of the post-graduate instruction of the two professions in sanitary science; only, as the demand for veterinarians in this capacity is as yet not great, a few centres of post-graduate veterinary instruction have so far sufficed to meet it. Doubtless fresh centres will open as the demand increases, but at present, whenever a new appointment in State veterinary medicine becomes available, a specially trained veterinary sanitarian can be found to fill it. Medical men who recognise the position we shall one day fill in the public health services might well also learn to recognise how far we ourselves have already travelled unaided towards it.

INTUSSUSCEPTION.

By Lieut. H. C. STEWART, A.V.C.

Station Veterinary Hospital, Secunderabad.

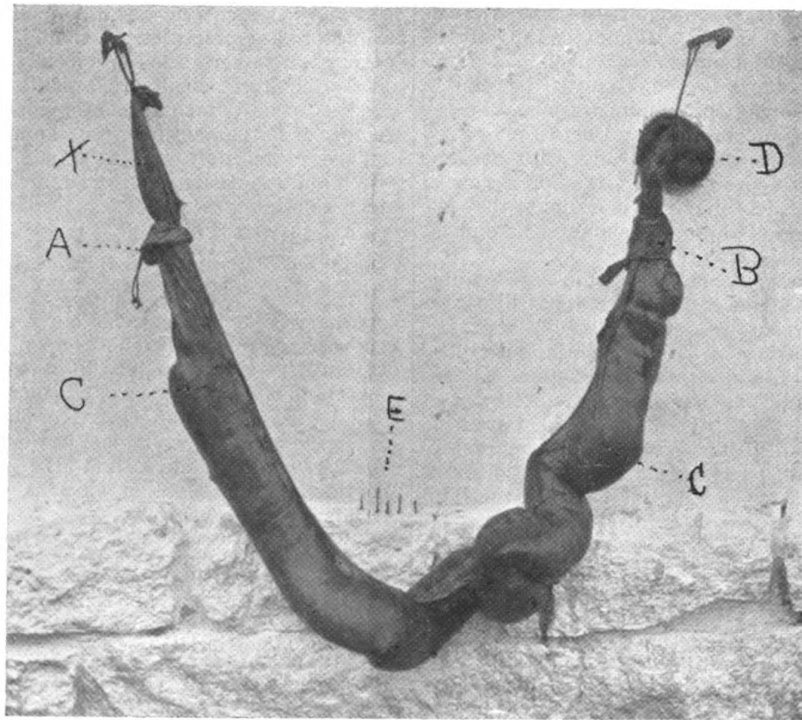
Subject.—Aged bay Waler mare, a polo pony, the property of an officer.

History.—No previous attacks of colic. Was sent to be tried in a chukker with a view to purchase on Sept. 22nd; polo ground six miles away. Whilst waiting on the ground previous to trial, suddenly fell down and showed spasmodic colic. Was got up after some difficulty, and sent to hospital, five miles from polo ground. Showed severe colic the whole way up.

drawn so tight as a twisted bowel. Rectum quite empty, no faecal matter met with full length of arm. Same symptoms lasted until about midnight when there was slight subsidence of pain, though appetite was wanting. Animal remained fairly quiet during the night, although dull symptoms were shown; all extremities very cold, and broke out into sweaty patches occasionally.

Morning, a little better. Temp. 103.4; very cold, occasional colicky symptoms, continual dull symptoms; no faeces passed, rectum still empty. Conjunctival mucous membrane remained practically normal throughout the attack; drank some water, but only chewed a little lucerne.

About 10 a.m., in spite of all treatment, fell down



EXPLANATION OF PHOTOGRAPH.

- X. Normal small intestine leading from duodenum to invagination.
- A. Commencement of invagination.
- B. Invaginating portion ending at B.
- C. Invaginating portion resected and end folded back to show invaginated portion.
- D. Terminal loop of invaginated portion.
- E. Some of the nails and screws found in double colon.

Symptoms.—When admitted about 6 p.m., severe acute spasms; no distension of bowel; temperature normal; no peristalsis audible, but borborygmus. Kept moving to prevent falling down as, if allowed to, endeavoured to roll on back. Given usual treatment, enemas and hose-pipe injections, but although straining only a small quantity of mucous discharged. Pulse frequent and small. Evidently obstinate stoppage of bowels; no peristalsis. Examined per rectum, and felt a cord-like, painful swelling, which did not appear to the touch to be

and died almost immediately. No Eserin was given.

Post-mortem, made about one hour after, revealed a ruptured stomach; the guts were then removed, placed on a table, and examination commenced from the rectal end. The floating colon was shrunken and quite empty. A big impaction encountered on entering the fourth division of the double colon. This consisted of a "dung-ball" about the size of a man's head containing gravel, some nails and screws. These latter were all of different shapes

and sizes, some of which are shown (*E*) in the photograph. Above this the contents were dry and hard, and towards the pelvic flexure another empty portion was found, and further on two more hard "dung bells," the size of cricket balls. In the 2nd portion the faeces were more or less normal and soft, and had evidently been acted upon by the medicines given, but at the caecal end of the first portion the contents were darkly stained with blood, as also at the upper end of the caecum. On entering the small intestines nothing but blood was found, and this was so for about 20 feet, when a very long telescopic condition of the bowel was discovered. The fore part had telescoped into the hinder. The invagination was removed after ligaturing with tape at each end, and the examination continued into the duodenum; the mucous membrane and external surface of which both showed inflammation. The stomach, except for the rupture in the greater curvature and consequent evacuation of the major portion of the contents, was normal. The invagination, which measured roughly 6 feet, was then photographed, and is explained in the accompanying photo; after which an endeavour was made to reduce the bowel to its normal condition. This was done after great difficulty, due to the mesentery attached to the invaginated portion. Both portions of the bowel contained blood, the invaginated portion showed strangulation, the mucous membrane being black in places. The invaginating portion was very much "kinked" towards the centre by the mesentery of the invaginated portion. After reduction and evacuation of the contents, the inner portion measured 7½ feet, and the outer portion nearly 20 feet, so that out of 72 feet of small intestine, about 27½ feet were involved in the intussusception.

I am indebted to Capt. Brachen, R.A.M.C., for kindly taking the photograph.

LYMPHO-SARCOMA IN THE DOG.

By E. WALLIS HOARE, F.R.C.V.S.

On September 4th an Irish water spaniel dog was sent for treatment; the following history was given by the owner.

The animal was two years and three months old, and about three months previously had suffered from a severe attack of distemper. On recovery from this, a peculiar appearance of the eyes was observed, and also the presence of a number of enlargements on the skin in various parts of the body.

On examination the eyes presented the appearance of acute conjunctivitis, the mucosa being very oedematous, and the eyelids much swollen. The eyes were very prominent, and the periorbital tissues swollen. A number of hard flattened enlargements were present on the skin in various regions, the largest being in the thoracic region.

The dog showed marked distress on being exercised, but while at rest appeared comfortable, and had a good appetite. Examination of the heart showed that the cardiac sounds were very indistinct and the impulse very weak.

On September 15th the animal was next seen, and all the phenomena found at the first examination were much more marked. Some of the tumours on the skin had commenced to ulcerate, the lymphatic glands all over the body were symmetrically enlarged, the inguinal glands being especially voluminous. The action of the heart was very weak, and distress was shown even while walking. The animal was destroyed with chloroform.



Autopsy.—The heart presented a peculiar appearance, as a large portion of the cardiac wall was of a firm white texture, a moderate amount of fluid was found in the pericardial sac. The liver was enlarged and congested. The spleen was normal. The abdominal lymphatic glands were moderately enlarged. I forwarded the heart, one of the affected inguinal glands, and one of the subcutaneous tumours to Mr. A. Leslie Sheather, M.R.C.V.S., who kindly examined them and reported the lesions as round-celled sarcoma.

The accompanying photo was taken on Sept. 15th.

CAVALRY COLLISIONS IN WAR.

In view of the remarks made on page 31 of the Statistical and General Report of the Army Veterinary Service for 1909, regarding the probable result of a charge made by cavalry, riding knee to knee, against another mounted unit riding in a similar manner, the following accidents are of interest, as they give support to the statement "that the impact, head to head or head to shoulder,

would mean the obliteration of the front rank of each side as completely as though they had ridden against a wall."

Quite recently the writer of this note was called to a parade ground where some mounted sports were being held preparatory to an assault-at-arms, and shown two horses lying dead within two yards of each other, and a third animal being led about with an attack of colic (?)

The two horses lying dead had accidentally been galloped into each other head to head, and just before the impact took place one of the horses raised its head, so that the full force of the collision was between this horse's mouth and the other's cranium. They both dropped as instantly as though they had been shot. The horse that had raised its head made an attempt to rise, which was no more than a movement, but the other animal did not even do this.

Post-mortem examination showed that one horse had been killed by its brain being penetrated by the upper incisors of the other, three of which were actually found broken off in the substance of the brain. The entrance had been made just above the brow band.

The other horse showed that three of its upper incisors had been broken off, and considerable hæmorrhage at the base of the skull was observed. The whole head was carefully boiled down, but no sign of a fracture was discoverable. The cervical vertebrae, similarly prepared, were also quite normal. The horse showing colic had been galloped into by another horse while it was standing still, and had been knocked over by the impact coming against its near side. This horse died two hours later, and post-mortem showed rupture of the stomach with its contents scattered through the peritoneal cavity.

The net result of these accidents goes to show that out of four horses colliding three were killed, and it enables one to form some idea as to what would be the result of cavalry charging cavalry. The case of ruptured stomach is the first one in the writer's experience that can be, beyond all doubt, directly attributed to external violence.

T. LISHMAN, Lieut. A.V.C.

Campbellpore, India.

ACORN POISONING.

Mr. Davis's note on the above subject is interesting. There is probably a reason for the fact he states in that acorns are more frequently gathered up in Germany and France than they are here. In Spain, too, quite a useful and widely employed food for pigs is provided by the oak trees. The outer husk of the seed is the part that produces the most mischief, and when prepared for food this is removed, and if the acorn is then dried its nutritive value is said to be greatly increased.

It is a matter for argument whether the fruit of *quercus pedunculata*, the common oak of England, Ireland, and Scotland, is not more poisonous than that of *quercus sessiliflora* which is found chiefly in North Wales and the hilly parts of the North of

England. Continental men recognise a sweet and bitter acorn, and it is the former that is the least harmful and most used as food. The forest acorn varies in nutritive constituents and in amount of production. Mature acorns must always be used. If not fully grown they are always dangerous. As a food they only appear to be useful for pigs and sheep, and then in small quantities.

G. MAYALL, M.R.C.V.S.

On Oct. 20th I was called to see 10 cows which had been eating acorns, 6 being aged cows and 4 heifers. They did not seem at all ill, but we gave each one a purgative dronch and they seemed to go on all right for a few days.

On Oct. 25th was called again, and found the older cows all right, but the heifers in a very bad state. Complete loss of appetite, shrunken eyes, occasional blinking, backs arched, lactation suspended. Two of them gradually grew worse, took to the ground, becoming comatose, in which condition they lingered for two days and died. Obstinate constipation at first, followed by strong diarrhœa.

Two of them are still alive, but won't eat, and they look like living skeletons. Acorns could be seen in the faeces when they were first taken ill.

J. H. PARKER, M.R.C.V.S.,

Faringdon.

THE YORKSHIRE VETERINARY MEDICAL SOCIETY.

A meeting was held at the Hotel Metropole, Leeds, on Friday the 27th October, when the President, Mr. J. W. Lazenby, Tadcaster, occupied the chair. Among the members who attended the meeting were: Messrs. H. G. Bowes, A. W. Mason, F. W. Clough, E. H. Pratt, S. Wharam, P. Deighton, Selby; S. E. Sampson, A. W. Noel Pillers, J. R. Simpson, W. A. Campbell, James Bell, J. A. Hodgman, Geo. Whitehead, J. McKinna, G. E. Bowman, W. Crawford, F. W. Pawlett, A. McCarmick, Treasurer, and J. Clarkson, Secretary. Visitor, Mr. R. R. Thompson, of Halifax.

The minutes of the previous meeting were read and confirmed.

CORRESPONDENCE.

The SECRETARY read letters of apology from Messrs. Abson, L. Jones, and Cockburn.

A notice had been received from the Royal Sanitary Institute as to the holding of their next meeting in July, 1912, in York. It was decided on the proposition of Mr. A. W. Mason to deal with it at the next meeting of the Society.

Mr. Shipley, of Great Yarmouth, Secretary of the Victoria Benevolent Fund, had sent a letter enclosing leaflets for distribution among the members of the Yorkshire Society, and asking for personal subscriptions, and that greater interest be taken in the work of the Victoria Benevolent Fund.

Mr. MASON and Mr. WHARAM both spoke of the deserving merits of the Fund, and suggested that all members of their Society should contribute something towards its maintenance, as at present it was not receiving that measure of support which was its due.

A letter was read from Prof. Woodruff in which he called attention to the fund opened by *The Veterinary News* for the purpose of assisting Mr. William Kirk in the appeal raised by the London County Council to

compel veterinary surgeons to pay for the use of the College crest.

Mr. McCARMICK proposed that £1 ls. be voted towards Mr. Kirk's expenses in connection with his defence, at the same time stating that he (Mr. McCarmick) would subscribe £1 ls. personally.

Mr. BOWMAN proposed as an amendment that they should make the subscription £2 2s., upon which Mr. McCarmick withdrew his suggestion in favour of Mr. Bowman's proposition.

Mr. BELL seconded the amended resolution, which was then carried unanimously.

The SECRETARY read a communication from the National Society in regard to the scheme for affiliation of veterinary societies to the National Society, and proposed that the Yorkshire V.M.S. give their formal expression of desire to be affiliated in accordance with the scheme.

Mr. WHARAM asked whether this should not appear on the minutes before it was approved, and thereupon Mr. Mason proposed it should be placed on the minutes and follow the proper course of procedure.

Mr. BOWES said he did not think there could be any good in delaying the matter. They had already approved of the scheme of affiliation several times, and he supported Mr. Clarkson's resolution that they do formally agree to affiliate. It was not a matter about which they were short of information. It had been discussed half-a-dozen times at the meetings of the Society.

Mr. MASON thought it would be advisable that it should be put on the minutes to come forward for discussion and approval at the next meeting. They would then be following the proper course, and they would be prepared for considering the matter.

Mr. CLOUGH asked whether the rules of the Society would interfere with the approval of the scheme of affiliation without due notice having been given.

This appeared to be the general feeling of the meeting, and the Secretary thereupon stated he would withdraw his resolution and forthwith give formal notice that at the next meeting of the Society the scheme for affiliation would be brought forward for discussion and adoption by them.

A letter read by the Secretary had reference to the death of the late lamented Prof. W. O. Williams, and after reading it he expressed the hope that a vote of condolence would be passed by the Society.

Mr. BOWES, in proposing a vote of sympathy with the bereaved family, said as an old student of the College of which Prof. Williams was at that time a tutor, he felt he was voicing the feelings of all of them when he said they would feel his loss as a personal loss. Particularly would they miss his genial company at their annual meeting and dinner.

Mr. WHITEHEAD seconded, and the vote was carried in silence, all standing.

The SECRETARY intimated that he had pleasure in announcing that at the spring meeting of the Society they were to have a paper from Prof. Ainsworth Wilson on "Sterility."

NOMINATION.

Mr. R. R. THOMPSON, Halifax, was proposed and seconded, and unanimously adopted.

FINANCIAL REPORT.

In presenting his financial statement for the year, Mr. McCarmick pointed out that they had over £40 balance at the bank, which was as nearly as possible the same amount as last year, in spite of the fact that they had had some very heavy expenses to meet during the last 12 months.

After a short discussion, the report and balance sheet was adopted.

ELECTION OF OFFICERS.

The retiring President, Mr. J. W. Lazenby, said he had the pleasant duty to perform of proposing the name of Mr. McCarmick for the position of President of the Yorkshire Veterinary Society which he himself was about to vacate. Mr. McCarmick was a well known worker, and it was the unanimous wish of the Council that he should be elected to preside over their meetings for the coming year.

Mr. WHITEHEAD, in seconding, stated that as the proposer of the name of Mr. McCarmick in Council, he had great pleasure in seconding the same resolution before the general meeting. They had heard the praises of Mr. McCarmick sung by the auditors in reference to his accounts, and he felt they would have the same sentiments to express with regard his chairmanship at the end of his term of office as president.

Mr. MCKINNA said he was glad to associate himself with the words of the proposer and seconder, and he was pleased that Mr. McCarmick had been prevailed upon to accept this, the highest honour their Society were in a position to offer to any of its members.

The resolution, on being put to the meeting, was carried with acclamation.

The retiring President then vacated the chair which was at once taken by the newly elected President.

Mr. McCARMICK thanked the members for the honour done him and the new dignity conferred upon him. He accepted the position with a great amount of diffidence because he felt he could not do justice to it. (Cries of "No, no.") However, he would do his very best. (Hear, hear). He was confident at any rate that he would have the support of the officers and Council, and with that help he hoped to be able to get along tolerably well.

Vice-Presidents.—Messrs. LAZENBY, DEIGHTON, and PAWLETT.

Treasurer.—Mr. Mason proposed, and Mr. Bowman seconded, the election of Mr. H. G. Bowes for the ensuing year, and this was carried without dissent.

Mr. BOWES, in acknowledging the vote, said he wished it to be understood that he was of course only intending to act as a temporary treasurer during the term of office of Mr. McCarmick as President.

Secretary.—On the proposition of the Chairman, seconded by Mr. Bowes, Mr. J. CLARKSON was re-elected.

Auditors.—Messrs. A. W. Mason and Wm. Crawford were re-elected.

Council.—The following six gentlemen were elected: Messrs. Bowman, McKinna, Ellison, Sampson, Wharam, and Whitehead.

EPIZOOTIC ABORTION IN CATTLE.

By E. H. PRATT M.R.C.V.S., Northallerton.

Mr. President and Gentlemen,—When your worthy Secretary sent me a wire asking me to give you a paper, I felt that everyone should try and do what he could for the benefit of our Societies, I felt bound to try and put my belief into practice. The only subject which I could think of for the purpose was "Epizootic abortion in cattle." This received the approbation of your Secretary; but the time being short for preparing anything for this meeting, I have simply tried to bring some of the main points forward so as to introduce the subject for discussion.

When one considers the enormous losses which are incurred by breeders, dairymen, and smallholders, I think that there is no need of apology for introducing the subject. One has known a case where a farmer has given up cattle breeding; of another who has abandoned the milk trade; and of one who has been practically ruined through this troublesome disease. The Board of Agri-

culture thought it advisable to have a Departmental Committee to enquire into the disease. The Committee carried out experiments, examined witnesses, and issued a most interesting report in which they recommended that action should be taken by the Board with a view to checking the disease. It is on that report that I have mainly based the few remarks which I have to make. I thought it quite probable that all the members would not have read it, and even if they have, it will be so much the better, because what I miss some member may bring forward. The report has been published, and the matter is of great importance to the country; therefore one would think that we, as a Society of veterinary surgeons, cannot do better than give it our careful consideration.

There appears to be no doubt that epizootic abortion in cattle is caused by a micro-organism, that the disease is contagious, and when once it makes its appearance amongst a herd of cattle it remains for a considerable time and inflicts great loss.

It has been proved that an animal may be infected by injecting natural virulent material or active cultures into the blood stream; by subcutaneous inoculation of considerable quantities of virulent material; by introducing virulent material per vaginam or by the mouth.

I have always been convinced that the bull was a great factor in the spread of the disease. Very unfortunately the committee were not able experimentally to prove or negative this theory. Only one satisfactory experiment in this direction was carried out, and it proved negative. The Committee state that "Without denying that the disease may sometimes be spread by coition, we think that nothing more than quite a subsidiary rôle in the spread of epizootic abortion can now be assigned to the bull."

One fact which impressed me with the idea that the bull was a carrier of infection, was a case where the first cow to abort, on a certain farm, had been sent to a neighbour's bull. The owner of the bull had had several cows abort. After this cow aborted the owner had a great many others follow.

The lesion of contagious abortion is confined to the uterus and its contents. "As long as the uterus remains closed, there is no fear of an infected animal spreading the disease by any other of its excretions to other animals. But once the contents of the uterus are discharged the infective material is liberated." This is a very important point when one considers that the course of the disease is slow. (The Committee found that "in ten experimentally infected animals which aborted, or which were killed when showing unmistakable symptoms of abortion, the average period between infection and the act was 126 days." The shortest period in any of these animals was 33 days, and the longest 230 days). The infection being confined to the uterus until the contents are discharged, gives one a chance to take precautions, because one knows the term when an animal becomes dangerous to others. Unfortunately all animals which abort do not exhibit premonitory symptoms, although many do. These can be taken and isolated and all discharges from the uterus can be treated with the object of preventing them infecting other cattle.

Externally the uterus of a pregnant cow affected with epizootic abortion seldom shows any departure from the normal, except that it may sometimes appear slightly more distended than one would expect for the period of pregnancy. Very exceptionally, however, slight oedema of the uterine wall is present in the neighbourhood of the neck. On cutting into the organ one finds between the chorion and the mucous membrane a variable quantity of exudate. It is particularly abundant around the cotyledons, and it may extend over the whole surface of the uterus and chorion, but apparently the extent of the area covered by it does not altogether depend upon the

length of time the animal has been affected. The exudate is usually of a light brownish yellow colour, which is possibly due to the chromogenic character of the microbe. Sometimes, however, it is a dark chocolate colour, due probably in some cases to admixture of blood, and in other cases to the oozing of fluid from the muscles of a mummified fetus. Its consistence varies from that of fluid pus to that of tough dough. Frequently it is so glutinous that it is difficult to remove small portions with a platinum needle. If a portion of the fluid exudate be placed in a test tube and allowed to stand for some hours, it separates into a lower portion of yellow solids, and an upper portion consisting of a dirty grey liquid. When the exudate is removed from the surface of the uterine mucous membrane the latter shows no microscopical lesions.

In advanced cases many of the cotyledons are softer than normal, and they may even be pulpy. In such cases the cotyledons have a distinctly yellow necrotic appearance, but no sign of necrosis is to be found on examining sections of the tissue. The sub-choroidal tissue of the fetal membranes is in some cases oedematous and has an appearance very like mucoid tissue. In quite a number sent up to the Board's laboratory, portions of the chorion have been found thickened and of a leathery appearance.

The fetus may, or may not, be altered. Out of 19 fetuses taken from experimentally infected animals, seven were found in which distinct pathological changes had taken place, that is to say, in 36·8 per cent. The changes in the fetus seem to depend on the length of time it has been dead. In no case in the cow was the fetus putrefying *in utero*. The fetus may be quite normal in appearance, and up to time as regards development. Sometimes the tissues are oedematous, and occasionally the oedema is blood tinged. Not infrequently the only alteration found in the fetus is dropsy of the abdomen, or it may be of the chest. The umbilical cord is frequently, though not always, dropsical. Sometimes the fetus is on the way to become mummified. In such cases the fetal membranes are closely adherent to it, and when one separates them one removes also what is left of the fetal skin, exposing a dark brownish-red and distorted mass of bony and muscular tissue in different stages of desiccation.

Of course before going in for any legislation with the object of combating a disease, it is most necessary to be able to prove that one's diagnoses are correct. This was a point which in the past appeared to me to offer great difficulties. Because if an owner exposed a cow in a market and an inspector saw her and suspected that she had calved prematurely, how was he to prove whether his suspicions were correct or not. We are now told that "It is an easy matter to identify the characteristic clumps of abortion bacilli in microscopical preparations made from the uterine exudate discharge immediately before and after abortion." The bacilli stain admirably with methylene blue or diluted carbol-fuchsin. They do not retain the stain when treated by Gram's method, and they are not acid-fast.

"If a suitably stained preparation made from the uterine exudate of an affected cow be examined under the microscope, a large number of white blood corpuscles and catarrhal cells from the uterine mucous membrane can be seen. Between the cells there are numerous single bacilli, which are mostly of an oval shape; some, however, are distinctly rod-shaped, like the tubercle bacillus, and collected into dense groups or colonies. Some of these groups look as if they were bounded by a cell membrane and give the impression of being contained inside tissue cells. In many cases, however, they look simply like collections of agglutinated bacilli. Lying amongst the smaller elements of a colony one sometimes sees very large oval elements which take the stain very deeply."

As a rule the majority of the bacilli are between one and two microns in length, but many are less than one micron. The longest measure about three microns. Tubercle bacilli, as you are aware, are from three to four microns in length. The committee prepared a material analogous to tuberculin, which they have called "abortin." When abortin was injected intravenously or subcutaneously into a cow which had previously aborted or which had been infected with the disease, a temperature reaction usually followed.

In animals not infected the temperature might rise to 103, but in infected ones the temperature would rise to 104, 105, and 106 F., commencing at the fourth hour and lasting until the fourteenth. Experiments with a method of diagnosis based on what is termed "fixation of the complement" for the purpose of diagnosing the disease in apparently healthy pregnant cows, gave promise of success. This method appears to be too complicated for anyone to adopt except an expert bacteriologist. I think, therefore, we need not go further into it at present.

If these methods eventually prove reliable, most useful weapons will have been prepared for commencing the attack upon this troublesome disease, because without something of the kind it is quite impossible to inspect a herd of dairy cattle and form any opinion as to what percentage of the animals are infected with the disease or not. Or to be shown an animal say a week after she has calved and be told that she calved before her time; then to be asked the question "Was the premature birth due to contagious abortion or accident?" How is a man going to give an opinion which he can defend with any assurance of being right? With no other evidence, I fail to see how he can.

An animal which aborts through the action of the abortion bacillus gains a considerable amount of immunity, but this immunity is not constant; it is known that some cows will abort two or three times in succession.

Experiments were carried out with a view of producing a degree of immunity which would be useful in practice, and encouraging results were achieved. It was found that large quantities of virulent cultures or pure virus could be injected into non-pregnant animals without serious consequences. Two maiden heifers were injected with 125 c.c. of a culture from the uterine exudate of a heifer which had been experimentally infected and slaughtered before abortion had taken place. The heifers which received these injections subsequently became pregnant 148 and 142 days respectively after immunisation. The first one received intravenously an injection of virulent uterine exudate emulsion 40 days after becoming pregnant. She was killed and found free from infection 112 days after the test inoculation.

The second heifer's immunity was tested by giving enormous doses of virulent exudate both by the mouth and vagina 36 days after becoming pregnant. She was killed and found free from infection 122 days after receiving the first infecting dose.

One experiment was carried out to test the result of carbolic acid treatment. The result of the test showed the treatment to be a failure.

The injections of dead liquid cultures were undertaken with a view of finding a curative agent. Three animals were inoculated intravenously with exudate to infect them. From 14 to 52 days afterwards these animals received every week for ten weeks large doses of dead liquid culture by subcutaneous injections. One of the heifers aborted about the average time after infection (123 days), the other two were slaughtered 112 and 113 days after infection and found healthy.

The prevention of epizootic abortion amongst cattle naturally divides itself into two parts. One is private effort and the other State interference. There is no

doubt that much can be done privately to get rid of this troublesome disease, but if an owner of cattle is obliged to keep up his stock of breeding or milk cows by buying in the open market he has a very difficult problem to face, because he must be always liable to get an infected animal and so bring the disease on to his farm.

Legislative measures require very great care in their framing, because the disease appears to be so widespread that any severe restrictions would paralyze the cattle trade and the dairy industry of the country. As we have seen, the disease takes a long time to develop; therefore if animals which had been exposed to infection were placed under restrictions the inconvenience of isolating them would last a very long time.

To commence to slaughter out would be, on account of the large numbers involved, ruinous to the cattle and dairying industries, and the cost to the State would be enormous. One thinks that these considerations must have been evident to the Committee after investigating the disease and hearing the evidence which they got from a large number of agriculturists representing the various agricultural and cattle breeding societies from different parts of the country; because they only recommend that legislative measures should be taken at present against cows which have aborted.

They say "We therefore recommend that as a preliminary measure, epizootic abortion in cattle should be dealt with under an Order of the Board of Agriculture and Fisheries requiring:—

(1) Compulsory notification of suspected cases of the disease.

(2) Veterinary inquiry to establish the existence of the disease.

(3) Temporary isolation and restrictions on the movement of any cow that has recently aborted.

"We also consider that in the event of effect being given to the above recommendations, such measures as may be thought necessary should be taken to avoid the possible introduction of infection in cows imported into Great Britain from Ireland, the Channel Islands, and the Isle of Man."

As to private effort, my experience is that a large number of breeders of cattle and dairymen will take advice, and carry out all kinds of experiments to get rid of the disease when that advice is given gratis, by those who know as little or less than themselves.

I think that private effort properly directed and thoroughly carried out can do a great deal towards ridding owners of cattle of the complaint, but as I once told a client, there is some trouble in carrying out measures which are effective.

Perhaps the best way to bring this forward is to give one's experience in dealing with the disease, in so doing perhaps others will give us their experience when the time comes for the discussion which I hope will follow.

One owner came and said that his cows were picking their calves, could anything be done to help him out of the difficulty, which if it continued would, to use his own words, break him. One cow had aborted a day or two previously and had retained her placenta. This he was advised to have taken away by hand. That was done, and the cow and all the others which had previously aborted were well irrigated with an antiseptic solution injected by means of an enema pump. Antiseptics were supplied and also a home-made injection tube to be used a few times for the cows which had aborted. A syringe was supplied for use on the bull and instructions left for disinfecting the organs of the bull after every service. The byre was thoroughly cleansed and disinfected, the man doing his work thoroughly. No cows were advised to be sold, but all kept and put to the bull. The following season the owner was rewarded by every cow proving in calf and carrying their calves to their full

time. He still keeps a supply of antiseptics and uses it for the bull. This case occurred a few years ago, and he has not been troubled with the disease since.

Another owner sought advice, and said that he had had several cows abort; he had sold them off, but things were no better; even heifers which he had tried to keep isolated had aborted. He was advised not to sell any more but try disinfection. Unfortunately he had no bull of his own. In a while he reported that he could not get his cows to prove in calf. Consequently when they came in season, instead of being sent to the bull, I went to his place and irrigated the uterus to the best of my ability with an antiseptic solution. It is not an easy matter to do this because the os uteri is very small and will not allow the nozzle of the pump to pass, but by a little manipulation it can be dilated somewhat, and I think that by holding the nozzle against the os some fluid must be forced into the uterus. However, this was done, and the cows were served at the following period of oestrus. Now we think that the trouble has been got over, for the cows so treated are carrying their calves the full time.

One has found that other cows which have aborted, and could not be got in calf, have proved pregnant through this treatment. One would like to know if others have found the same difficulty of cows not breeding after abortion, and what remedy they have found successful in treating it.

In reading the report of the Committee one was surprised to find that the irrigation of the uterus was not recommended. It says "With the act of abortion the greater part of the uterine exudate is immediately ejected. That some of it remains behind for a short period is certain, since we were able to demonstrate abortion bacilli in material obtained from the vagina of a heifer three days after she had aborted. On the other hand no abortion bacilli could be found in the uterus of a heifer a month after she had aborted. It seems probable that, as a rule, the genital organs cleanse themselves by natural means a comparatively short time after abortion has taken place. Almost immediately after abortion and expulsion of the membranes the uterus contracts, and its internal surfaces come into apposition. Its condition is such that it would not be possible to force fluid into it with a pump from the vagina. Apart, then, from the probability that disinfection of the uterus by antiseptics is not necessary to rid the organ of abortion bacilli, we are of opinion that it is futile to attempt it by irrigation methods."

The Committee think that for hygienic and therapeutic reasons the genital passages should be cleaned twice a day as long as there is any discharge. They are of opinion that it is seldom necessary to continue the injections for more than a month, and that after three months there should be small risk in putting the cow to the bull. Professor Bang, in his admirable paper which he gave to the National Veterinary Association at Liverpool in 1906, says "After abortion the womb of the cow must be carefully cleansed and disinfected. If the after-birth does not come it ought to be artificially removed (this ought to be done on the first day) and the womb should be carefully rinsed with some antiseptic solution several times in the first days, as long as it is possible. A careful disinfection of the womb is not only important as a way of destroying the contagium in order to prevent infection of other cows, but it is also the best way to protect the cow against sterility, and against abortion in the next pregnancy."

On this practice, and in connection with infections supposed to be spread by the bull, Professor Bang quotes a case reported by Mr. Poulsen (Ringsted):—"A farmer who owned 16 cows, amongst which abortion had never occurred, nine years ago allowed seven of his cows to be served by a bull at a neighbouring farm where abortion had prevailed for some years. All these

seven cows aborted, and no others. When these cows began to show signs of impending abortion they were immediately removed from the byre and put into another stall. By all seven cows the after-birth was retained, and Mr. Poulsen therefore had it removed by hand within 24 hours. The removal was complete in the case of six of the cows, but not in the seventh, which became emaciated and was soon afterwards sold. After the removal of the after-birth the cows were daily washed out with carbolic water, and they were not readmitted to the byre until some considerable time afterwards, when they appeared to be entirely free from discharge. During the following year the six cows again became pregnant and carried their calves the full term. No case of abortion has since occurred in this herd. "I think," says Prof. Bang, "every one will admit that in such a case the bull has been the carrier of the contagion." He quotes the case as being "an excellent example of a successful rational prophylactic treatment of a new imported contagious abortion."

One would think that we now know sufficient of contagious abortion to recommend with confidence measures being taken to prevent the spread of this disease, which would not be unduly harassing to the trade, nor too expensive for the State to carry out. We believe that both the owner and the State would greatly benefit. To stimulate discussion on the subject I would offer the following suggestions:

1. That contagious abortion in cattle causes very serious loss to the community, therefore it should be scheduled by the Board of Agriculture, and steps taken under Order for its prevention and eradication.

2. All cows which abort or calve more than a month before their due date should be reported.

3. A veterinary inquiry should then be made into the matter, and if it were found to be a case of contagious abortion the animal should be treated under direction by a State paid veterinary surgeon who would arrange for its isolation and for disinfection of the premises. The whole to be carried out according to principles laid down by the Order.

4. If abortin proves to be a reliable diagnostic agent its use should be made compulsory, and no cows which had been exposed to infection should be allowed to be sold which reacted to it, unless they were branded.

The third proposal, that cows which have aborted should be placed under the charge of a veterinary who should be remunerated by the State, will, one ventures to think, meet with your approval. Because, if the animals are to be placed under any restrictions, some one should see that they are carried out. Who can be more suitable to do this than men who have a grasp of the whole subject, and who understand the why and the wherefore.

It has been demonstrated that good results have followed treatment, therefore whilst the veterinary surgeon was visiting the place to see that the Order was properly carried out, he could at the same time give practical help and advice, which should be appreciated and be good compensation for any inconvenience the owner was put to on account of the Order.

I think, gentlemen, I have said enough, and thank you for your kind attention. If you criticise please remember that these notes—or perhaps I should say collection of extracts—was run together hurriedly to oblige your Secretary, therefore deal kindly with the errors and correct them by giving us your own experiences. If you do so we are sure to have a good discussion, and the object one had in view in bringing the subject forward will have been attained.

DISCUSSION.

Mr. SAMPSON gave it as his opinion that it would be better to call the disease which formed the subject of the paper, not *Epizootic abortion* but *Specific metritis*.

Such a name would convey the idea that it was not to be confounded with accidental abortions which they came across. It was most important that they should employ their efforts to find some adequate remedy for the disease, for the spread of it in a herd meant a great loss to the owner. First there was the loss of the calves, in addition to that a cow which had aborted only yielded half the quantity of milk, though it was being fed at the same rate as other cows. That meant a great national loss when they came to think of the prevalence of the disease, and it was a subject, he submitted, which was ripe for investigation and also for legislation. He was surprised that the Commission referred to by Mr. Pratt in his paper, which was appointed to inquire into the matter, had not given it as their opinion that the bull was the carrier of the disease. He himself should certainly think so. He knew of a case where a strange bull had served some cows in a herd and subsequently the disease had broken out where it had never been known before. Another point in Mr. Pratt's paper was in regard to injection of the uterus. Nine out of ten times after an injection had been made, there was some fluid left down in the horn of the uterus which it was impossible to get out. This acted as an irritant and upset the cow badly. For his own purposes he had lately resorted to the use of pessaries which caused less irritation to the cow, were easily put in, and answered the same purpose as an injection. Pessaries had the great advantage of not filling up the uterus with any foreign material; they dissolved and nothing was left. Mr. Sampson finally referred to the fact that he could generally tell by the *feel* a cow which had aborted from one which had not. He did not know whether veterinary surgeons had experienced this, but he found he was able to distinguish by the sense of touch in this way.

Mr. CLARKSON agreed with Mr. Sampson that the bull was a very large factor in the spread of the disease. He was rather surprised that the Commission had not laid more blame to his score than they had. As they knew, amongst small holders one bull had to serve a large number of farmsteads and in this way, he thought, the disease was spread. As regards injections *versus* pessaries, he there again found himself in agreement with Mr. Sampson. He did not think so much of irrigation, because it was not so clean an operation as the use of pessaries. When he did make an injection he always used two tubes; one for injecting and one for the outflow.

Mr. CLOUGH said he would like to endorse the remarks of the two previous speakers as to the blame to be attached to the bull in the propagation of the disease. He knew of a case where a bull had served cows on a farmstead six or seven years ago, and that farmer had had abortion in his place ever since. The farmer himself traced it to the bull. One peculiarity which he (Mr. Clough) had noticed about these cows was that after they had come to their full time they kept their afterbirth. As to injections, he had stopped injecting. There was always a considerable amount of straining with the cows, and he had seen them put the vagina down, and the rectum down, as a consequence of the operation. He was certainly in favour of adopting the alternative course of using pessaries.

Mr. BOWES said as a town practitioner he had not had any very great experience of epizootic abortion. He did not think however the Commission had conducted a sufficient number of experiments to disprove the agency of the bull in spreading the contagious disease. He liked pessaries in preference to injections. He thought it a much cleaner and more satisfactory method. Whether it would apply so well in contagious abortions he did not quite know, because the uterus was pretty well closed up and the pessaries would have to be small. The majority of the farmers were firmly convinced of the efficacy of carbolic acid, especially in districts in Scot-

land, and they certainly had some cases which appeared to speak very highly for carbolic acid. If it had been for no other purpose than convincing the lay mind, he thought the Commission ought to have conducted further experiments. The Commission had not believed in carbolic acid at the outset, and they had not appeared to think it worth while to deal with the matter at all. He did not quite agree with Mr. Sampson in his suggestion that the disease under discussion should be called Specific metritis. It was a catarrhal condition, but scarcely metritis; if so, not of a very acute type. It was difficult to decide from a diagnosis whether a case was an ordinary abortion or a contagious abortion. In the cases cited by Mr. Pratt, when abortin was injected, there was a reaction after the cows had aborted. Did the same apply if they were pregnant.

Mr. PRATT: They are supposed to do so.

Mr. WHARAM spoke of the difficulty of diagnosis. He agreed with Mr. Bowes that it was not easy to diagnose a case of contagious abortion when first seen. With regard to scheduling, he did not think the disease was so prevalent as it used to be. He thought the sanitary arrangements made by most breeders had tended to reduce the number of contagious abortions. The more frequent use and knowledge of antiseptics had, in his opinion, much contributed to reduce the extent of the disease. That was all done by individual effort, and the fact of so much having been accomplished in this way would no doubt retard any action taken by the Government. In reference to the manner in which the contagion enters the body of the cow they knew it might be ingested, or might enter *per vaginam*, and no doubt the bull was often responsible for it. He had not the slightest doubt that the disease in most cases - although the Commission did not appear to think so - was propagated by the bull. To remove the cleansing the same day as the cow aborted would be impossible in many cases. There was a very great danger in washing out many of these animals. It was much safer to use pessaries, and in that way a fairly strong antiseptic might be introduced which would do all that was necessary. He thought with good veterinary surgeons practising in the country districts they would entirely get rid of the disease.

Mr. PRATT, in replying to the discussion evoked by his paper, said most of the gentlemen who had spoken appeared to think that the bull was the carrier of the disease in the majority of cases. That was his view, too, and he was glad to see that owners of bulls were getting very particular as to what cows they allowed their bulls to serve. With regard to the relative merits of the alternatives of washing out the uterus and the employment of pessaries, the latter had never seemed to appeal to him so much as irrigation. A pessary might sink away down into the bottom of one horn of the uterus, and they did not appear to him to have that cleansing effect that a pump had. By the irrigation method, if one bucketful was not enough, two or three might be used. He himself had first used Jeyes' fluid but had found that sometimes the cows strained most awfully. He had begun to use Chinosol now, and found it very efficacious. He had never tried to draw it out again, but rather liked to see it left in, as it mixed with the tissues and, in his opinion, exercised a purifying effect on the cow. At any rate it did no harm.

Reference had been made to the use of a curative agent. Abortin was not brought out as a curative agent, but simply as a diagnostic agent. The Committee experimented with dead bacilli as a curative agent. Animals were infected and large quantities of dead cultures were inoculated for about seven months with a view to preventing the disease. In two cases the experiment was successful, and in one case the cow aborted. As regards abortion not being as prevalent as it used to be, unfortunately it was at any rate very common, and it

was no doubt spread by the fact that a farmer, when a cow of his aborted, often immediately sent it to the market, and if a man bought it in good faith he got an aborting cow.

Mr. BOWMAN said he would like to ask Mr. Pratt what he considered was the best method of disinfecting the bull.

Mr. PRATT replied that he had instructed his clients to dissolve Chinisol tablets in water, take an enema pipe, put the nozzle into the sheath of the bull and pump in until the sheath was full. Of course, added Mr. Pratt, with a smile, you have to look out for "number one," but it was not often that the bull was refractory. They got used to it.

On the proposition of Mr. Bowes, seconded by Mr. Clarkson, a hearty vote of thanks was given to Mr. Pratt for his instructive paper which had led to such an interesting discussion.

Mr. MCKINNA suggested that before the meeting closed a vote of thanks should be given to their late President, Mr. J. W. Lazenby, who had filled the chair with dignity and great success, and under whose genial chairmanship they had all enjoyed sitting. It was with regret they saw his term of office come to a close.

This was seconded by Mr. Bowes, and carried unanimously.

Mr. BOWES proposed, and Mr. Wharam seconded, "That the President be empowered to nominate Mr. Clarkson as the Yorkshire Veterinary Society's candidate for a seat on the Council R.C.V.S. as soon as nominations are invited." This was carried.

Mr. NOEL PILLERS suggested that the item in the agenda "interesting cases" be in future taken before the paper and discussion, as otherwise it meant, as they had so often experienced, that this item of the agenda was not reached until the end of the meeting when members were anxious to leave, so that the consideration of such cases was cut short in a very hasty manner. In the case of other societies he quoted, "Interesting cases," was taken before the paper.

Mr. SAMPSON supported Mr. Piller's suggestion, but no action was decided upon.

Mr. PRATT showed specimens under the microscope illustrative of his paper, and these were inspected by several of the members.

Afterwards those present adjourned to an adjoining room of the hotel where they were entertained to tea at the invitation of the Leeds members of the Society.

Actinomycosis in Norway.

Professor Harbitz and Dr. Backer Grøndahl have recently published (*Norsk Magazin for Lægevidenskaben*, June) an account of the incidence of actinomycosis in Norway, where this disease has lately been carefully studied. The first case published in Norway dates from 1887, and for many years afterwards the disease attracted scant attention. More recently a number of cases have been reported from different parts of the country, and at the Pathological Institute in Christiania 87 cases have now been studied, with special reference to the source and course of the infection, as well as to the varieties of fungi found in different lesions. The seat of infection was the cervico-facial region in 39 cases, the lungs in 20, the abdomen in 26, and the skin in 2. The disease was twice as frequent in men as in women. Its incidence was not greater than usual in the months August to January. Many of the patients were town-dwellers, and most were recruited from the eastern and southern provinces, the west coast, including Bergen, being extraordinarily free from the disease. In the cervico-facial region the disease is chronic but benign and tends to spontaneous recovery.

All the 39 patients so affected recovered. The primary focus in this class could seldom be found, but it was twice localised in the tongue, once in the submaxillary gland, and occasionally there was a history of aching gums early in the disease. In the lungs the disease was invariably fatal. The primary focus was in the pulmonary tissue; infection from the oesophagus to the lungs, as described by some writers, was never observed. Usually the first sign of the infection was a bronchopneumonia. In the abdominal form 20 per cent. recovered. The primary focus existed in the appendix in nine patients, and this was also probably the case in five others. Of these cases the appendix was usually scarred, or it presented a perforation leading directly to an abscess. The spread of infection may be intra or extra-peritoneal. In the former case it often involves and perforates the bladder, when the fungi may be found early in the urine. In the latter case it may track up behind the diaphragm, and an empyema may be the first sign of an abdominal infection. Of the two cases of primary skin infection one occurred in a man who worked in a corn-field without stockings. He died in spite of radical treatment, including amputation at the thigh. Passage of the fungi by the blood stream was occasionally observed in the later stages of the disease, when distant organs such as the brain and the lungs became involved, but spread of infection by the lymphatic system was never seen, and the authors emphasise the diagnostic value of this point. In 16 cases of actinomycosis hominis they succeeded in isolating one and the same facultative anaerobic fungus differing from that which most German writers have described as pathogenic (Boström's type). It also differed from every aerobic type cultivated from various plants. An identical growth was once cultivated from bovine actinomycosis, seven cases of which were examined. Professor Harbitz and Dr. Grøndahl consider it probable, but not proved, that human and bovine actinomycosis are caused by the same or by closely allied fungi. Numerous attempts were made to isolate from corn, straw, hay, and the air the same anaerobic fungus; none but the familiar aerobic fungi could, however, be found, and these were not pathogenic to rabbits or guinea-pigs, nor could any progressive actinomycotic inflammation be induced. The writers locate the site of infection either in the lining of the respiratory tract or in the digestive tract which has been infected by swallowed matter. Less is known of the source of infection. Infection from cattle to man, or from man to man is not proved and is highly improbable. Probably the pathogenic fungi are derived from various plants; but how and where they live in nature is unknown. J. H. Wright has suggested that the fungus pathogenic to man and cattle does not exist elsewhere, and that it is often present in the mouth of man, becoming pathogenic with trauma. This theory is worthy of consideration, but it requires further support. The diagnosis of actinomycosis by complement fixation or agglutination was found by the writers to be impossible, and owing to the capriciousness of the disease and the variability of its course, it is difficult to estimate the value of the various remedies in use, including potassium iodide. Twice the writers used a vaccine made from sterilised cultures of the fungus; the treatment was quite negative in one case, and in the other case, which presented advanced abdominal disease, there was considerable improvement. The perusal of this interesting paper leaves the reader with the unsatisfactory impression that there are vast and numerous lacunae in his knowledge of a disease which has commonly been treated by text-books as a cut-and-dried subject.—*The Lancet*.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.		Anthrax.				Foot-and-Mouth Disease.		Glanders		Counties Affected	Sheep Scab.	Swine Fever.			
		Outbreaks		Animals		Out-breaks	Animals.	(including Farcy)	Animals.			Animals Attacked	Out-breaks	Out-breaks.	Slaught-tered.
		Con-firm'd	Re-ported	Con-firm'd	Re-ported										
Gr. BRITAIN.	Nov. 4	20		21				3	9			7	33	578	
Corresponding week in	1910		29		38			2	10	Hants	2	6	41	456	
	1909		28		33			9	23			6	19	162	
	1908		21		21			9	38	London	2	3	42	338	
Total for 44 weeks, 1911		743		913		18	467	180	428	Middlesex	4	323	2114	25393	
Corresponding period in	1910		1235		1470	2	15	319	933	Surrey	1	367	1255	11643	
	1909		1100		1440			462	1611			498	1432	12861	
	1908		920		1210	3	112	693	2151			663	1762	10883	

Board of Agriculture and Fisheries, Nov. 7, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Nov. 4	...	...	...	...	...	...	...	2	2	78
Corresponding Week in	1910	...	...	...	...	...	...	...	5	4	91
	1909	...	...	...	...	...	...	...	1	7	...
	1908	...	...	...	...	...	...	...	7	1	42
Total for 44 weeks, 1911	...	7	14	...	...	2	3	53	283	115	2001
Corresponding period in	1910	7	10	...	...	1	2	62	387	82	1869
	1909	8	8	...	...	...	...	70	330	86	1561
	1908	7	10	...	...	...	...	34	300	152	3534

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 6, 1911

NOTE.—The figures for the Current Year are approximate only

* As Diseased or Exposed to Infection

Veterinary Training and the Public Health Service.

The vast extension of the domain of pathology in recent years has brought into clear relief the intimate relationship between human and veterinary medicine. Particularly has the new science—bacteriology—contributed to this, not only by making plain the practical identity of many disease processes in the animal and the human being, and rendering possible the study of the one through the other, but also by demonstrating hitherto unsuspected channels of infection. As a consequence of this new science, exacting as it does considerable technical training and the command of adequate laboratory facilities, a specially trained set of medical practitioners has arisen adequately equipped to examine the problems of public health and preventive medicine. When investigating defects in human habitation, clothing, food, and occupation, they are necessarily driven to a consideration of matters affecting the domestic animals that come into relation therewith in various ways. The problem of tuberculous cattle, for instance, is closely interwoven with that of human tuberculosis. The need is continually becoming more obvious, therefore, for a class of veterinary sanitarians, highly trained in scientific research methods, to approach from the animal side the solution of those common problems that are already being vigorously attacked from the human side by the medical officers of health. This need recently received forcible expression at the hands of the President of the Faculty of Physicians and Surgeons of Glasgow, Dr. David N. Knox, in his address at the opening of the Glasgow Veterinary College. After pointing out that no gulf existed between human and veterinary medicine, for both were based on the same scientific principles and threw light each upon the other, he urged upon the governors of the College, the

veterinary profession, and the students the importance of the study of bacteriology. Referring to a feeling that seemed to be growing in the veterinary profession that veterinarians should be appointed meat and milk inspectors, he said that scientific laboratories were an absolute necessity for efficient inspection, and he proposed that there should be evolved a class of veterinary surgeons especially skilled and capable of working in such laboratories. For some time to come he feared that such officials would for the most part have to be sought among medical officers of health, until the veterinary profession awoke to the necessity of providing the scientific training required. Failing the establishment of a veterinary diploma in public health by the Royal College of Veterinary Surgeons, he offered as an alternative suggestion the establishment by the Glasgow Veterinary College of post-graduate courses in public health, which would involve the establishment of a public health laboratory, where special instruction in chemistry and bacteriology might be given with a practical examination at the end of the course. It seems certain that an increasing scientific equipment of veterinary sanitarians would secure valuable co-operation between the medical and veterinary professions in the field of public health.—*The Lancet*.

Veterinary Surgeons and Meat Inspection.

We have received the following interesting communication from Principal McCall, of the Glasgow Veterinary College:—

I am pleased to inform you that the provisions for the instruction of veterinary students in bacteriology and meat inspection which were foreshadowed by Dr. Knox in his introductory address to the students of this College are now in operation, and have been in operation, since the year 1895.

In that year the Council of the Royal College of Veterinary Surgeons (of which body I am a member, and have been for upwards of 30 years) advanced the period of study from a course of three years to one of four years, and added to the subjects of study bacteriology and meat inspection.

In this College all students studying for third professional examination are required to attend (1) "A course of not less than 80 lectures on the morbid anatomy and pathology (including bacteriology) of the domesticated animals," (2) "A practical course extending to not less than 40 hours' instruction on the morbid anatomy, pathology (including practical bacteriology) of the domesticated animals."

On the termination of his third session's study the student is examined on the above subjects by the examiners of the Royal College of Veterinary Surgeons (no Professor or Lecturer in any of the Colleges is allowed to act as an examiner).

Those students who pass this examination receive in their fourth year instruction on practical meat inspection at the Moore Street abattoir during the session, and on its termination they are again subjected to a practical test conducted by another set of examiners, also appointed by the R.C.V.S., and, if successful, receive the diploma of the Royal College of Veterinary Surgeons.

The students of the London, Edinburgh, Liverpool, and Dublin Colleges receive similar instruction, and are examined by the same examiners, so that more cannot be done than is being done to make veterinary surgeons competent meat inspectors, and I have no hesitation in saying that the members of the Royal College of Veterinary Surgeons who have received their diploma since the year 1895 are competent to act as meat inspectors, and have received a more extended course of theoretical and practical instruction in meat inspection, than the members of the medical or any other profession.

Dr. Knox was so far correct in stating that "he did not take the view that a veterinary surgeon *per se* was of necessity the best qualified meat inspector"; but a veterinary surgeon with the training he now receives, and has received since 1895, in pathology, bacteriology, practical meat inspection, not to speak of anatomy, physiology, chemistry, botany, veterinary medicine and surgery, etc., etc., must of necessity now be the best qualified inspector of flesh foods.

I also observe that "The Raider," under "Evergreen," remarks "that there is just one outstanding defect in the Veterinary Colleges. There are not sufficient students on the benches to make them flourish." But I cannot admit that it is the fault or defect in the Colleges that the number of students attending all the Colleges are reduced by one-half, or that the Colleges are not flourishing—*i.e.*, doing good work.

In 1895 the Council of the Royal College of Veterinary Surgeons advanced the matriculation or general educational examination to the standard required for admission to the Medical Colleges. This knocked off at one blow one-half of the students formerly admitted. Then the period of study was raised from three to four years, with an advance of fees amounting to £20 on the fourth session, and we were recovering from these blows; but now we are in the throes of the motor craze, and back to where we were in 1895 in respect of entrants. No one, however, can say that the Colleges are to blame for the paucity of students, and if by "not flourishing" it is meant that the Veterinary Colleges are not paying their way in fees obtained from the students, that will apply to all the Universities and Medical Colleges in the country, as also the Technical Colleges and the Agricultural Colleges; and if we apply to the students of the two last-mentioned institutions the same educational tests before admission as are applied to the students of the Veterinary Colleges, I hesitate not to say that two-

thirds of the entrants to these institutions will be unable to gain admission.

I enclose herewith a copy of the prospectus of this College, and by a reference to its pages you will obtain ample corroboration of the statements I have made as to the facilities afforded students in acquiring a knowledge of the subjects of bacteriology and meat inspection.—*Scottish Farmer*.

Death from Glanders—Inquest.

At the Congregational Institute, Bexley Heath, on Wednesday, Aug. 23, Mr. H. B. Sewell, the Coroner for the district, conducted an inquest concerning the death of Herbert John McGill, 26 years of age, the son of George McGill, contractor, of 36 North Street, Bexley Heath.

Mr. H. J. Bracher, solicitor, of Maidstone, was present to represent the Kent County Council.

George McGill, carman and contractor, of 36 North Street, Bexley Heath, stated that the deceased was his son, who lived with him. His age was 26 years last birthday, and he was employed by witness as a carman. The deceased enjoyed very good health, and had nothing the matter with him since he was a baby. The deceased sometimes assisted in horse slaughtering, but did not do much at it. He was engaged on July 31st by Mr. Hoare, Inspector under the Diseases of Animals Act, to assist in slaughtering a horse that had glanders, but in the meantime it died. His duty then consisted of carting the carcass from Mr. Williams' stable at Bexley to the grave, to prepare it for the veterinary surgeon to make a post-mortem examination. The grave was at the back of Oxford Place, close to the stable. The examination was conducted by Mr. Robards. Witness was not present at the examination. The deceased came home about six o'clock on July 21st and said that he had cut his arm. It was bandaged, and deceased would not let anyone touch or look at it. He said that Mr. Robards had dressed it. The deceased explained that the knife with which he was cutting the tongue out slipped and cut his arm. The next day witness saw the arm, and there was a small flesh wound that did not look very bad. Deceased went out on the Tuesday, and on Wednesday he did no work, and, as his arm pained him, he went to Dr. Leslie. Deceased bathed and poulticed it as ordered, and went to the doctor every day to the following Monday, when he "lay up." Death took place on Monday, August 21st, at seven o'clock in the morning. Deceased had assisted at post-mortem examinations since he was 14 years of age. He was a sober lad, and took his own knife on the occasion in question.

Mr. Bracher: Mr. Hoare came to you, to engage you, didn't he?—No, he wanted my other son, but he couldn't go, and I said, "There's my son Herbert," and he said to him, "You will do, you come."

But his conversation was with you?—Partly with me, and partly with my son.

He has paid you for your son's services?—He has paid my wife.

Frank Walter Robards, veterinary surgeon, of Camden House, Dartford, Veterinary Inspector to the Kent County Council for the Dartford district, deposed that he was making a post-mortem examination on a horse supposed to have died from glanders, on July 31st. He understood from Mr. Hoare that young McGill would be there to assist. The horse was just behind the Oxford Mews, Bexley. Deceased was present when witness arrived, but had not done anything beyond carting the carcass to the place where it was to be buried. Deceased took out the viscera, lungs, and the trachea and larynx. Whilst he was taking out the trachea, which was a bit awkward to do, the knife slipped and cut his forearm. The cut was about two inches long, but not deeper than

the skin. Witness immediately disinfected with neat turpinal the wound which in itself was not serious, though it would be serious if it was infected with glanders. He washed the arm with a solution of turpinal, rubbed some in, and then bandaged it up. The examination had been practically completed at that time. Witness heard a week later that the deceased was poorly, and was told that he had been to a doctor, who said he had blood-poisoning. The deceased's brother told him then that he was rather better. The previous Friday hearing that the deceased was seriously ill, he went to the house, and was told that his condition was serious. Glanders was very serious, but witness did not think there was any danger after what he had done in disinfecting the wound so carefully and promptly.

By the Jury: It was not necessary to hold a post-mortem examination on every horse that died from glanders, but he had instructions from the Kent County Council to make one on all horses which were supposed to have died from glanders. The deceased clearly understood that there was danger, but witness did not consider it necessary to tell him to go to a doctor. He had never had a case of that kind before.

Allen Hoare, Inspector under the Diseases of Animals Act, appointed by the Kent County Council, and living at 7 Methuen Road, deposed that on Saturday, July 29, he had a report of an outbreak of glanders at the Oxford Mews, Bexley. Witness called in the veterinary surgeon, who gave a certificate that it was glanders. On Sunday, July 30th, witness saw Mr. McGill, and asked if his son could slaughter a horse the following day. He meant his son Fred, whom he had been used to having, but Mr. McGill said he could not go, and Herbert would go. On Monday, July 31st, the Divisional Committee at Dartford made an order for slaughter, and the time was fixed, but in the meantime the animal died. Deceased took the carcass to the railway allotments at the back of the mews, where the pit was ready to receive it. After the arrival of the veterinary surgeon, the deceased opened the horse, and, in taking out the windpipe the knife slipped. Mr. Robards dressed the wound very quickly. The deceased did not seem very frightened about it. The horse had been suffering from glanders. The deceased helped to roll the body into the pit. Witness heard the next day that deceased felt queer, but did not think it was serious after what Mr. Robards did in dressing his arm. He understood that the deceased told the doctor the wound had been disinfected for glanders. Witness reported the outbreak of glanders to the Medical Officer of Health (Dr. Sunderland), but did not mention that the deceased had cut himself.

Dr. J. Leith Leslie, of the Broadway, Bexley Heath, said the deceased came to him on the morning of August 3rd. He complained of a cut on his left forearm, which was about 1½ inches long, gaping, but not deep. It looked very unhealthy, and the lad explained how the wound occurred, and that Mr. Robards had cleaned it up and bandaged it, so that he did not think it was necessary to go to a doctor. At that time the deceased did not say that the horse he had been cutting was suffering from glanders. On August 8th the deceased showed symptoms of general blood poisoning, and later developed symptoms typical of acute glanders. He died on the 21st from exhaustion from acute glanders. Nothing more could have been done for the deceased so far as witness was aware. The treatment for glanders, which should be carried out at once, was to excise the wounded part and apply very strong disinfectant. It must be done immediately. He did not know the disinfectant Mr. Robards used. When witness saw deceased nothing more could have been done for him beyond what was done. About 90% of the human cases of glanders ended fatally. Witness had never seen a case before.

In reply to a jurymen, Mr. Robards said that the dis-

infectant he used was generally employed in a 2½% solution, but he applied it in this instance in 8%. The deceased complained that it burnt him, showing that it had taken action, and was strong. He did not think that it could be said that the disinfectant was not effective. Some microbe must have got to the blood very rapidly.

The Coroner, in summing up, said the cause of death was perfectly clear, the deceased becoming infected with glanders while helping to perform a post-mortem examination on a horse that had died from that disease. They had heard that disinfectants were applied immediately, but apparently the blood stream became infected very quickly, and before the disinfectant had time to work. He then proceeded to give his experience in a couple of cases of tetanus, and observed that it was quite easy for the blood to become infected. He thought the proper verdict would be "Death from misadventure."

A Jurymen: Do you think if he had seen a doctor sooner it would have been any benefit to amputate the arm?

The Coroner: It would be a dreadful thing to cut a man's arm off whether infected or not. A doctor could not say for a few days whether it was infected.

In reply to another Jurymen, Mr. Robards said that gloves were not worn by deceased or by witness. Some wore them, and some did not for these cases. In this instance it was not the hand but the arm that was cut. He usually looked at the hands of the one helping him to see whether there were any cuts.

The Coroner: I have no doubt that after this the veterinary surgeon will take care to see that the man helping him is protected.

Mr. Robards: Certainly, I will see that the man is provided with gloves.

The jury returned a verdict of "Death from misadventure," and passed a vote of condolence with Mr. McGill in the loss of his son. — *The Express* (Kent).

PARLIAMENTARY.

SCOTTISH LAND BILL:

NEW AGRICULTURAL DEPARTMENT.

In the House of Commons, on Monday, Nov. 6.

On the report stage of the Small Landholders (Scotland) Bill.

Mr. C. BATHURST (U.) moved that the Bill be recommended to a Committee of the whole House in respect to Clause 4. When the Bill was committed to the Standing Committee on Scottish Bills, it contained a reference to Commissions who were to have certain powers. As it came back, a separate Board of Agriculture for Scotland was mentioned for the first time. Since it had become known to English agriculturists that the Board of Agriculture was no longer to have the entire administration of the Diseases of Animals Act throughout Great Britain, every meeting of agricultural associations in England which had been held had passed a unanimous vote asking Parliament to refuse to allow this clause to pass into law. During the past month, also, the Scottish Chamber of Agriculture had passed a resolution of protest by a majority of two to one.

Sir T. C. WARNER (R.) seconded. Even if Scotland had the management of her own affairs, he thought it would be wise on her part to have a central body for the whole of Great Britain to make regulations with regard to diseases of animals. (Hear, hear.)

Mr. COURTHOPE (Sussex, Rye, Opp.) thought the right hon. gentleman had rather misunderstood the point of the argument. The whole argument was based on the ground that diseases of animals affected British rather than merely Scottish interests, and that the administra-

tion of this important matter should be under one Department and not two. It was a matter of common knowledge that the advantages which Great Britain enjoyed of being able to send pedigree stock to foreign countries rested on the great rigidity and strictness of administration as regards disease. It was also known that countries like the United States and the Argentine knew no boundaries whatever except the sea. If there was any laxity of administration on this question in Scotland—and the opinion prevailing among a large section of Scottish agriculturists he thought warranted such a fear—the whole of Great Britain would at once lose the advantages she possessed in that direction. If there was a division of administration between the two countries the risk would be great before the new Scottish Department got into harness, and the English Board would have to treat Scotland exactly as it treated foreign countries in relation to the movement of animals. There would have to be the same kind of restriction, and, while that would be a very undesirable thing for England, it would be disastrous to Scottish agriculture.

Mr. URE said the Government would support the Bill. Its main purpose was to set up a Scottish Board of Agriculture, and he could not see what harm would thereby be done to the English farmer. If he were asked to state which was the most important of the powers of the new Board, he would say the administration of the Contagious Diseases of Animals Act.

Mr. LONG declined to look at the matter as a purely Scottish question. The Government, in setting up a Scottish Board of Agriculture, were going to confer on the Scottish Secretary the unchallenged right to take from the present Board of Agriculture for England and Wales whatever powers he thought fit to demand. The Secretary for Scotland was to have the absolute right to make such regulations as he chose for the control of the new Board. They had no right to make this unheard of change in a bill, which did not settle the matter by definite and statutory provisions, but which gave powers to one Minister at the expense of another. (Opposition cheers). During the last forty years enormous progress had been made in the work of stamping-out disease in Great Britain, and it was of the greatest importance to have one man at the head of affairs, who could form an opinion, and then promptly act upon it. (Hear, hear). This proposed change would be a fatal mistake. It would expose to great risks cattle to the value of many millions of pounds, and would arouse in the minds of agriculturists the gravest possible anxiety. (Opposition cheers).

Mr. BECK (R.) said he discovered to his sorrow and surprise that this so-called purely Scottish Bill put English agriculture in grave peril. (Hear, hear). Those who sat for rural constituencies were bound to fight this proposal tooth and nail. (Cheers).

Mr. CHAPLIN (U.) said that one danger to this country by this proposal was that the Continent was reeking with foot-and-mouth disease, and it became more and more difficult to protect this country. Absolute unanimity of treatment guided by one mind was essential for success.

Sir W. MENZIES (R.) said that surely it was not beyond the ingenuity of those who objected to this clause to frame an amendment so that, as regarded the contagious diseases of animals, there should be uniformity.

Mr. HICKS BEACH (Gloucester, Tewkesbury, Opp.) suggested that those Scottish members who had spoken against the motion were adopting tactics which were unlikely to secure the passing of the Bill. They must recognise that a strong feeling existed in England against a separate Board of Agriculture being established in Scotland, and that in Scotland also there was a strong feeling against having a separate body to

administer the Diseases of Animals Acts. The administration of those Acts should be under the control of one authority for the whole of Great Britain; whether that authority had its headquarters in Scotland or in England he did not care. However many Boards of Agriculture might be set up in Great Britain, Ireland and foreign countries which imported cattle would continue to treat Great Britain as one country, and a separate administration would be of no advantage to Scottish agriculturists. He regretted that the recently appointed President of the Board of Agriculture was not in his place during this debate. (Hear, hear.)

On a division, the motion to recommit the Bill was defeated by 197 votes to 113—majority 84.

Mr. H. HOPE (U.) moved an amendment to substitute a Scottish Department of the Board of Agriculture and Fisheries for the "Board of Agriculture for Scotland" which it was proposed to establish.

Mr. URE said the Government could not accept the amendment. Scottish members were fully alive to the efficiency of the Board of Agriculture and Fisheries, but they believed they had in Scotland material for establishing an equally efficient board for the control of Scottish agriculture.

Mr. LONG said the only security the British farmer now had against disease was the vigilance of the Board of Agriculture, and now, for sentimental reasons, the powers of that Board were going to be impaired. The Bill would strike a blow at agricultural prosperity, of which its authors would live to be ashamed. (Cheers.)

On a division the amendment was rejected by 130 to 74.—*Daily Telegraph*.

Acorns as Food for Stock.

Mr. John Hughes, an agricultural analyst of much experience, is strongly in favour of their use. Some years ago he made a study of the question, and the results of his investigations are embodied in a pamphlet.

Acorns in moderation are, he says, a wholesome and suitable food, and because animals have died from a too greedy consumption of a certain food itself is to blame. He quotes Sir George Jenkinson, of Eastwood Park, Gloucestershire, whose long experience enabled him to say that ripe acorns are good for cattle, the danger being when young stock on short keep get access to the unripe fruit.

From the results of analyses made by Mr. Hughes, it is seen that of every 100lb. of acorns 86.29 consists of a very nutritious, easily digested food, and only 13.80lb. of indigestible husk.

The reason why acorns have not so far been used as food in the form of meal is probably because farmers usually have no convenient means of drying and subsequently grinding them into meal. Stored in thin layers on shelves in a large, dry, well aerated room, they would dry naturally. But for commercial purposes the drying would have to be by artificial means, in the same way that hops are treated. He found that by drying the crushed kernels at a temperature of 212deg. F., not only was the material concentrated by the expulsion of the water, but the process increased the sugar compounds and eliminated the astringent principle due to the tannin, improving the flavour in a marked degree by imparting a sweet, aromatic, biscuit-like taste.

In a table he shows that acorn meal contains more oil than barley meal, but less than oatmeal. In albuminoids it is inferior to both, but as regards digestibility it contains only 3.77 indigestible fibre, as compared with 5.14 in barley meal, and 11.01 in oatmeal. He calculates that it would require two tons of acorns to make one ton of the meal, and being a partially cooked food the meal will keep for a considerable time without undergoing deterioration. Mr. Hughes points out that acorns lying

about in the fields remain a source of danger to cattle and horses, and hundreds of tons of good, nourishing, and palatable food are annually wasted.

Mr. Carrington Smith writes from Admaston, Rutley:—During more than half-a-century's occupation of a farm, upon the grazing land of which there have been growing many acorn-bearing oaks, I have not had a single instance of loss, although both cattle and sheep had free access to heavy falls of acorns for weeks together. In 1858 I bought about 100 bushels of acorns gathered by women and children, by leave of the landowner, in copses and in fields occupied by tenants. These acorns, for which I paid about a shilling a bushel, were poured down in a heap on the wooden floor of an old barn, and were both a valuable and safe food for all live stock during the following winter. Slight fermentation and sprouting mellowed the heap. In 1868 the acorn harvest was of splendidly large fruit, perfectly ripened and free from their cups and twigs. During a later period of this so-called autumn acorns have been lashed off by wind with cups and twigs attached to them. My complete immunity from any loss from 1856 onward may fairly be attributed to the fact that whenever outside grazing falls off I feed freely both home-grown fodder and bought food.

Seventy cattle belonging to Mr. J. Bishop, of Haughton, Shifnal, have died from eating acorns. The cattle were grazing in a field in Aqualate Park, Newport, Salop, belonging to Sir William Boughey, where the acorns were exceedingly plentiful. The loss to Mr. Bishop is estimated roughly at nearly one thousand pounds.—*Farm and Home*.

The Traffic in Old Horses.

Sir Cecil Hertslet, British Consul-General in Belgium, reporting on the trade and commerce of that country, in alluding to the traffic in horses between England and Antwerp, says:

"I can emphatically state, upon the best authority, that horses now permitted to be embarked in the United Kingdom are, without exception, in a fit state to undergo the voyage to Antwerp without cruelty.

"The work of the veterinary inspectors appointed at various ports in the United Kingdom is carried on in a thoroughly conscientious manner.

"Short of absolute prohibition of the trade in old horses, it seems impossible to deal more strenuously with the matter in the United Kingdom, and in common fairness it would be unjustifiable, to remove from the British dealer the market for old horses now existing in England."—*Eastern Morning News*.

Macadam and falling Horses.

Mr. John McBeth, writing to *The Scotsman*, says:—

"When driving home this week I observed a very good and capable horse being assisted after falling on the brae opposite Lugton, Dalkeith. The marks on the tarmacadam clearly showed the cause of the downfall. Part of this brae has been made little else than a skating rink for horses. This is anything but a solitary case on our suburban roadways. Others who have narrowly escaped or have suffered when driving can testify to the extremely dangerous stage in which some of our roadways are. There is surely a medium between keeping down the dust and practically driving horses off the road altogether. It was once suggested to make special roads for motor traffic. The idea was scouted, but they are now being made at the expense of the other road traffic. So when a horse falls and damage results from a road made unsafe and a veritable trap, should not the Road Authority pay the damage and restore the roadway to a state of safety at once."

Addresses Wanted.

The following names will be removed from the Register R.C.V.S., 1912, failing information as to the present addresses of the members.

Name.	Last address known.
Bayes, James, late of Agricultural Department,	Cape Town, S. Africa.
Bird, Robert H.,	Fort Collins, Colorado.
Brassington, A., 15 Mornington Rd., New Cross Rd., S.E.	
Casewell, W. Thos.,	Newport, Salop.
Cobbedick, J. O.,	Queen's Row, Clifton, Bristol.
Davies, Arthur W.,	Lennox Taylor Co., Iowa, U.S.A.
Deakin, Herbert Walmsley	109 Welbeck Street,
	Ashton-under-Lyne, Lancs.
Dowell, Frank W.,	128 Jermy Street, St. James', s.w.
Farrell, Capt. G. H.,	Hyderabad (Deccan), India.
Featherstonhaugh, H. H.,	King's Somborne,
	Stockbridge, Hants.
Hall, James W.,	40 High Street, Hawick.
Jackson, A. F. S.,	Johannesburg Turf Club,
	Johannesburg, S. Africa.
Kennedy, W. R.,	216 Selhurst Road, South Norwood, S.E.
MacLaren, John H.,	Sweethope, Shawhill Road,
	Shawlands, Glasgow.
Muirhead, John T.,	14 Merchiston Gardens, Edinburgh
Scott, William,	Royal Artillery, Victoria Barracks,
	Sydney, N.S.W.
Simpkin, F. A.,	Grosvenor House, Horncliffe Road,
	Blackpool.
Smith, Steven Marsh,	late Capt. A.V.C.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, NOV. 3.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

C. R. Chadwick to be Lieut. Dated Oct. 10.

Nov. 7.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. L. L. Dixon, from the Half-pay List, is re-stated to the establishment, with precedence next below A. S. Lawrie. Dated Nov. 8.

It is with regret we have to announce the death of Capt. B. H. Lane which occurred on Nov. 5th, at Meerut, India, from concussion of the brain. This officer graduated on July 13th, 1904, commissioned Lieutenant, Army Veterinary Corps, 4th Feb., 1905, promoted Captain, 4th Feb., 1910.

Nov. 8.

Capt. E. P. Argyle has been transferred from Aldershot to Netheravon to take up the duties of Veterinary Officer to the Cavalry School, replacing Capt. J. J. B. Tapley who has been selected for appointment to the Egyptian Army.

The undermentioned officers arrived from India in Transport "Rewa" on 1st November, and have been posted to the Aldershot Command: Major A. England, Capt. P. V. Beatty, H. M. Williams.

INDIA OFFICE, NOV. 3.

APPOINTMENTS TO THE STAFF.

The following appointments have been made to the Staff have been made in India:

ARMY HEADQUARTERS STAFF.

QUARTERMASTER-GENERAL'S BRANCH.

To be Assistant Principal Veterinary Officer in India. —Capt. M. St. G. Glasse, Army Veterinary Corps. Dated Oct. 1.

To be Inspecting Veterinary Officers.—Col. F. W. Forsdyke, Army Veterinary Staff, Lieut.-Col. E. Taylor, Brev.-Col. E. R. C. Taylor, Army Veterinary Corps. Dated Oct. 1.

CORRESPONDENCE.

GASTRIC AFFECTIONS OF RUMINANTS.

Sir,

I have read with much interest the various letters with regard to the gastric affections of ruminants. I quite agree with Mr. Nash in his remark that it is wonderful how many persons give such large quantities of salts, treacle, linseed oil, etc. without killing the cattle to which they are administered. Salts are a medicine I have not given to cattle for the last three years, and from my experience during this period I have determined not to return to a remedy so drastic in its effects. Large quantities of salts, when given to cattle, enter the rumen and mix with its contents. The taste of the salts is disagreeable to animals, and consequently they refuse to chew the cud, and the bolus is returned to the rumen without being masticated. I have seen cattle remain in this condition for a long time.

The method I now adopt is to give a seven, eight, or nine dram. ball of aloes (encapsulated), which at once passes into the omasum. My experience is that the chewing of the cud is not interfered with, and this, in my opinion, is of great importance. When cattle are given aloes they do not scour violently, nor do the animals sicken. I have frequently seen cattle after receiving a capsuled ball begin to chew the cud immediately afterwards, and continue to do so as if nothing unusual had happened. That is a most satisfactory condition in which to find one's patient. Another reason why I continue to give those capsuled balls is that the bowels respond much quicker, and the action is neither so violent nor so drastic as that of salts.

When giving balls to cattle I used invariably to injure my hand on the sharp edges of the molar teeth. In fact I found it almost impossible to avoid injury even should I use the balling iron or mouth gag, as cattle have much more lateral movement of the jaw than the horse. I therefore had to find some method to protect my hand, and after many experiments I devised a balling gun which effectively prevents injury either to the operator or to the patient. To those desiring information regarding the instrument I shall be very pleased to forward particulars.

There is frequently a distention of the rumen with gas. When the rumen becomes extensively distended I am of opinion that the stomach becomes paralysed. Previously in cases of this nature I frequently used the trochar and canula, but latterly I have used the probang only. I withdraw the stielate, and thus allow the gas to escape, and this, in my opinion, is greatly superior to the use of either trochar or canula. After the gas has been allowed to escape I usually give an eight or nine dram. ball of aloes followed by amm. carb. in 1 oz. doses.—Yours etc.,

JOHN M. STEWART, M.R.C.V.S.

COST OF MOTORING FOR A V.S.

Sir,

It was with a feeling of trepidation and fear that I penned the few lines on the above in your issue of the 28th ult., wondering if the columns of your estimable journal (although I felt the matter would interest many of your readers) would be open to such a subject. Hence I felt I must be brief. I gladly accede to the request of Mr. Begg, and give below some further particulars. The 8 h.p. Renault was new when purchased, the price of £205 being for the car with two-seated body. The fittings, all of which I consider absolutely necessary for any comfort, cost £35 (not £38 as appeared in the issue of the 26th ult.), and thrown in with this amount I had the services of a man for six days to learn me to drive the car. The details are as follows:—

Hood with side curtains	£8 0 0
Glass screen and fittings	5 0 0
Two side lamps	2 0 0
Tail lamp	1 0 0
Head light	4 0 0
Stepney wheel with tyre, waterproof cover	7 7 6
Horn	1 5 0
Side doors	3 3 0
Lifting jack	15 0
Registration fee	1 0 0
Number plates	7 6
Head light bracket	1 5 0

Total £35 3 0

I drive the car myself, and purposely omitted the cost of the man's wages because the idea in giving the short summary was to contrast the cost with that of keeping horses, and most veterinary surgeons keep a groom of some kind or other. The man's wages are 19/- with cottage which I could easily let at 5/- per week, total 24/-, and although much of his time is occupied in gardening, I have thought perhaps in arriving at the cost of keeping a car it is best to debit the whole of his wages to that object.

The depreciation and tyres are the two most important items to consider in estimating the cost of keeping a car, and obviously I cannot yet speak authoritatively as to the former. But I think if we say the car will last five years before it is either obsolete or done, that will not be far out, although I have known one car of this make which ran for 60,000 miles. The depreciation will therefore figure at £48 per annum. Each year after the first a certain sum will be incurred for painting, renewals of bearing, and general repairs. For this £10 will probably be a conservative estimate, notwithstanding the fact that this make of car is one which wears well. We may condense the items in the following manner:

Running expenses	per annum	£50 19 9
Wages	...	62 8 0
Depreciation	...	48 0 0
Repairs	...	10 0 0
		£171 7 9

Per mile on an estimated mileage of 6,5750:

Running expenses	... 1 s. 1 d.
Wages nearly	... 2 22
Depreciation	... 1 70
Painting and repairs	... 35
	6 08

I think this district with its proximity to the flint bearing strata of the Southdowns, which flints are used for repairing the roads, is rather hard on the tyres.—Yours faithfully,

HENRY TAYLOR.

Hayward's Heath.

Sir,

I bought a 6 h.p. Rover car, new, and ran it for two years. I kept a special file for the bills. I sold it for £40 at the finish. Including depreciation in value it cost me £3 per week all the time I had it. I am now using a 7 to 9 h.p. Swift, which does quite 10 miles more to a gallon of petrol, and as yet requires very little repairs.—Yours faithfully,

J. H. PARKER, M.R.C.V.S.

Faringdon.

Sir,

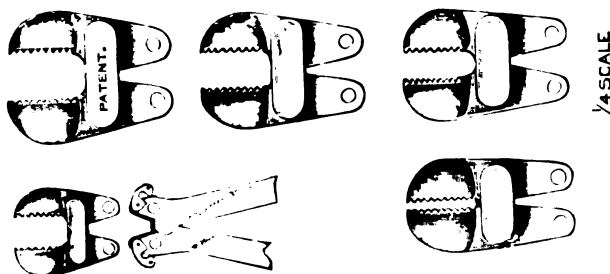
I am now in my fourth year of motoring and find the cost works out about as follows: Maintenance, that is petrol, oil, grease, tyres, and repairs of all kinds £100 a year. depreciation £50 a year, man £50. I have covered from 10,000 to 12,000 each year, and used first a six horse power Rover, and latterly a 8 h.p. Rover, both of which I bought new.—I am, your truly,

E. D. JOHNSON.

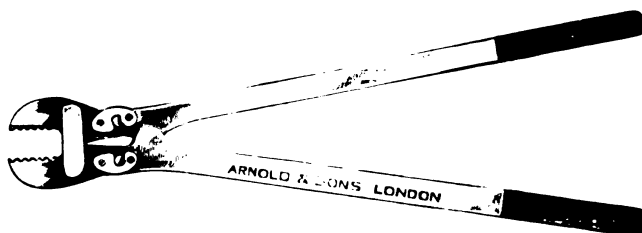
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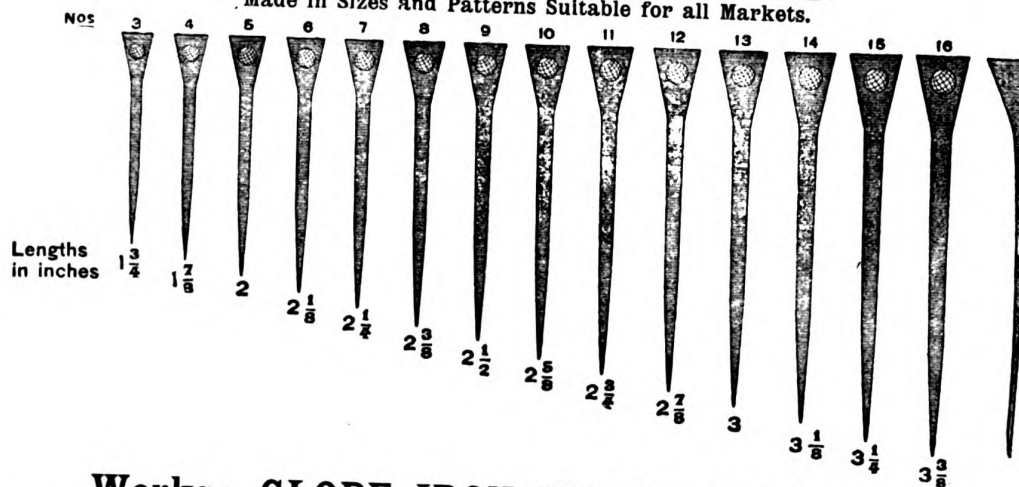
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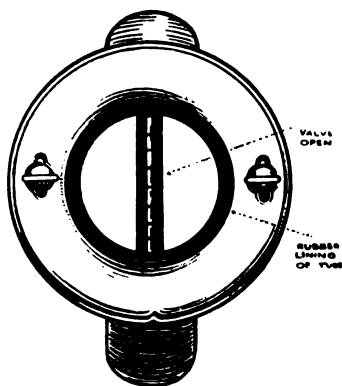
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NITROUS OXIDE IN CANINE PRACTICE.

This week we print an article which may ultimately introduce a new method of inducing anaesthesia in every-day canine practice; and the joint authors—a dentist and a veterinary surgeon—form an ideal combination of workers upon this particular question. Hitherto nitrous oxide gas has been practically, if not absolutely, unused in veterinary surgery; and these experiments therefore mark a new departure. Eventually, it is very possible that it may come to fill a distinct place of its own in minor surgery upon the dog, at least.

Observations upon three subjects, even though repeated, do not justify final conclusions. So far as they go, however, the experiments undoubtedly all point in one direction. They indicate that dogs may be quickly, easily, and safely anaesthetised by nitrous oxide gas; that the period of anaesthesia in them lasts about as long as that in human beings; and that recovery is much more rapid than is the case when chloroform is used—the latter being a great advantage in practice. It is certain that the drug deserves an extensive clinical trial. Of course its use in veterinary surgery, as in human practice, will always be subject to considerable limitations; and experience, with perhaps further modifications of apparatus, are required to precisely determine these.

On the whole, the record of our profession in this country with regard to anaesthetics is not by any means a full one. We have certainly no cause for self-reproach as regards cocaine and the various more recently introduced substitutes for it. But it will always be a blot upon our history that, though a few of us have used chloroform practically ever since it was first introduced, its popularisation amongst us has only taken place within the last twenty years. Probably even at the present day, some of us might advantageously study the whole subject of anaesthesia by inhalation more closely; and those who do will find it worth while to examine the ideas and technical methods of medical men and dentists. The most recent human text books may be consulted, and the most modern human apparatus studied—not for blind imitation, but for careful and intelligent adaptation to our own purposes. The whole subject has undergone a great deal of development within the last few years in the medical profession; and we should be unwise to ignore its results.

BILATERAL PURULENT NEPHRITIS: A SEQUEL OF "REDWATER."

The subject of this short contribution was a six-year-old shorthorn cow, in her third pregnancy. This animal, for a period of twelve months, had shown from time to time violent internal pain, as if from colic. In October last she had an attack of "redwater."

The breaking down of blood constituents was apparently much relieved by the exhibition of dilute acids, and the constipation was effectively overcome by mild purgative drenches, followed by Ol. lini., stimulant and tonic powders, composed of Pulv. rad. cinchona, Nux vomica, Ammon. carb., and Zingiber.

After an improvement lasting for four or five days the patient began to show signs of a relapse; the urine again became of a weak port wine colour; the pulse was very rapid, total anorexia was present, dullness, and lassitude were shown, as a result no doubt of septicæmia, and life was only maintained by frequent dosing with gruel and the medicines mentioned above. At intervals of a few minutes, the cow would moan piteously and grind her teeth; she also used to stand with her hind legs crossed, and her back bent downwards, and very taut, and manipulation in the region of the kidneys was painful. About this time the passage, per urethra, of purulent material began, and I was convinced that the case was hopeless. The faeces and urine were very mal-odorous. The patient died in a deep coma about three days after the last mentioned symptoms made their appearance.

On post-mortem examination every organ but the kidneys and uterus was healthy. The uterus showed very recent tuberculosis on its peritoneal surface. The kidneys gave evidence of chronic nephritis, being fibrous, with a firmly adherent capsule. On transverse section it was seen that the cortex of the kidneys was mostly broken down into a deep red, foul smelling, grumous material.

I record this case principally to invite descriptions of similar ones from your readers, and to learn if there are any symptoms other than the passage of discoloured mal-odorous urine, which can be considered *typical* of nephritis, whether simple or purulent.

It is worthy of note that the temperature remained normal until the beginning of apparent dissolution when, of course, there was a marked and rapid decline.

L. L. STEELE.

Beckermert.

ADMINISTRATION OF NITROUS OXIDE GAS TO DOGS.

By H. HARLING CAPES, L.D.S., EDIN., Dudley;
and R. LEWIS GREEN, Capt. A.V.C.(T.), Dudley.

Date: 22nd July, 1909, 7.30 p.m., cold night.

Case I: Subject.—Wire-haired terrier bitch. Gas administered for two and a half minutes, and she was not under. The face piece was then removed and grease put round the edge of it, when she became completely cyanosed and well under the influence of N_{20} in one and quarter minutes. Estimated she took six gallons of gas. Recovered when face piece was removed and allowed plenty of air.

Case 2; Subject.—Black and tan terrier bitch (mongrel). Became completely cyanosed in two minutes, five seconds. She had rigors twice, which did not occur in Case 1, but was noticed in Case 3. Respirations ceased and she lay collapsed for some time. Estimated took six gallons. Recovered when face piece was removed and allowed plenty of air.

Case 3: Subject.—Fox terrier bitch in whelp (condition poor). She took two gallons in fifty seconds, when outlet valve became defective. The face piece was removed and the valve readjusted, then we gave her about another four gallons, making six gallons in all "without air" when she became completely cyanosed. She was totally collapsed and had rigors twice, her heart was beating, but respirations practically ceased for almost thirty seconds.

We forced the last four gallons to see if it would kill her. The face piece was then removed, she breathed once of her own accord and then artificial respiration was resorted to, when she took five minutes to recover and was then able to stand. Violent twitchings of the head and ears took place on the ears being "flicked" or pinched.

These animals were fed at 10 a.m., and they took the gas quietly with almost imperceptible struggling. Two of the animals took no notice of a pin being stuck into the ribs or tail; showing that they were sufficiently under the anæsthetic to enable any small operation to be performed. Pupil dilated, conjunctival reflex gone.

"Repetition" on same three dogs in same order, 27th July, 1909.

Case I.—Four gallons was given first administration, she was one minute going under and cyanosed. Administered again immediately, five gallons in 45 seconds, and was completely under, cyanosed and rigors. Air was administered each time.

Case II.—"Given with air." First administration four gallons, was completely cyanosed in one minute forty seconds. Rigors. Was under the influence of N_{20} about thirty seconds (the same as is usual in the case of a human being).

Second administration "without air." Nine gallons, and she was completely cyanosed in one minute thirty-five seconds. Breathing ceased, and she was dead in one minute thirty-six seconds.

Case III.—Gave four gallons in $1\frac{1}{2}$ minutes, very little cyanosis, eyes insensitive. A very small amount of air was given and she was under about thirty seconds.

Second administration. Gave four gallons and she was completely under in one minute but only slightly cyanosed. She had slight rigors during recovery.

This bitch was pregnant and the whelps were alive.

Muzzle.—The muzzle was specially made, and can best be described as a very "elongated face piece" the same as used by dentists, with a vertical expiratory valve. The gas was admitted through a two-way stop valve exactly similar to the one used by dentists. The one way admits N_{20} only, the other admits air only and shuts off the N_{20} . The skilful administration of a little air with the N_{20} prolongs the period of anæsthesia. It is very evident after these experiments, that, in the hands of a competent anæsthetist, it is quite easy and perfectly safe to administer N_{20} to dogs, and they remain under the influence of the gas a sufficient length of time to enable one to extract one or two teeth, or perform any minor operation which only takes a short period.

We were both very surprised at the amount of gas these animals took, and on the second date, viz., 27th, we were endeavouring to kill them, but found it more difficult than we anticipated.

Another very great factor in favour of N_{20} is the short space of time they take to recover. This is totally different to $CHCl_3$.

Signs of Anæsthesia.—The general signs of anæsthesia in dogs are very much the same as in the human being, viz., a good pulse, full, firm, and slightly quickened. Relaxed muscles usually, but sometimes rigidity occurs. No stertor or jactitation was noticed in the dogs.

Cyanosis.—Cyanosis in dogs is specially noticed on the lips and tongue, and in our opinion this cyanosis coupled with muscular relaxation is the surest guide as to when to remove the face piece. Absence of "conjunctival reflex," in our opinion, is of no value as a guide in the case of dogs.

We believe that with practice, and an improved apparatus, it would be quite possible to give "prolonged gas to dogs."

Animals placed in "irrespirable gases" become convulsed before death, but when made to respire N_{20} , their respiration simply grows more and more shallow, finally ceases, and the animals die painlessly.

Touchstone's skeleton is carefully kept in a state of immaculate preservation at the Eaton Stud, near Chester. Touchstone's skeleton is doubly interesting from the fact that the horse is seen to have possessed nineteen pairs of ribs, which is one more than Nature ordinarily allows the equine race. Arranged below Touchstone's remains are the shank bones of the famous mare Beeswing, and her union with Touchstone resulted in Newminster. Buried close by these bones are three peerless mares—Shotover, Angelica and Lily Agnes.

ABDOMINAL WOUND WITH PROTRUSION OF INTESTINE IN THE CAT.

A female cat, aged about two years, was sent to the Infirmary for treatment on August 3rd, with the history that she had fallen on to a greenhouse roof and sustained a serious wound.

The animal arrived in a small basket, having been sent a journey of two miles. On examination a large amount of intestine was found protruding from a wound in the abdominal region, in front of the umbilical region and a little to the left of the median line. The wound easily admitted three fingers, and was of a jagged character. Another wound was found on the flank, which, however, did not extend through the abdominal muscles. The intestine and omentum were soiled by earth and by portions of wood fibre bedding, and were commencing to get dry. After administering chloroform I removed all the torn and soiled omentum, cleansed the intestine with a weak solution of Liq. cresolis, then washed with solution of Peroxide of hydrogen, replaced the intestine, cleansed wound as far as possible, sutured first the muscular wound and then the skin with Japanese silk, applied a large compress of double cyanide gauze soaked in Peroxide of hydrogen, then a layer of cotton wool and bandage. The diet was restricted to milk, which the animal took of her own accord.

On August 6th, as there was no action of the bowels, $\frac{1}{4}$ grain of calomel was given; and on the 7th two doses each 1-10 grain were administered at an interval of three hours, also an enema. The bowels acted at 4 p.m. On the night of the 7th the animal tore off the dressings and licked the wound, but fortunately did not injure the part or disturb the sutures. The second wound, however, supplicated and was slow in healing.

On the 8th small amounts of bread well soaked was allowed in the milk. The important wound healed well, but in consequence of the animal's tendency to lick the second wound the dressings were not left off until August 29th. She was sent home on August 31st, much to the surprise of the owner.

Remarks.—I report the above case, not with a view to demonstrating any surgical skill on my part, but to point out the remarkable powers of *vis medicatrix naturæ*. Indeed my technique would, by all the "high priests" of aseptic dogma, be regarded as heterodox to a marked degree. For I did not use a razor to remove the fur, neither did I boil the sutures nor the instruments.

But my excuse is that there was no time to spare for attending to the toilet of the peritoneum; the intestines were a long time exposed, and the animal was suffering from a certain amount of shock.

Why the serious wound should have done so well and the other so badly, is explained by the fact that the skin in connection with the latter was much bruised.

No doubt had I conformed to the rules of aseptic surgery, I should have attributed the result of the

case to the employment of these measures. But there was a possibility that while carrying out the necessary technique the patient might have succumbed from shock.

E. WALLIS HOARE, F.R.C.V.S.

Cork.

TUBERCULOSIS—BY INGESTION (?)

The subject of this case was a light bay gelding, aged eleven years. Nine months ago the owner noticed a small swelling, situate about the middle of the neck on the near side. No other swellings were visible, and except for an attack of influenza about five years ago, the animal was working every day and in good mettle.

My client was recommended by a friend to rub the swelling with some sort of "blistering liquid." About a week later they noticed a swelling in the pectoral region; this swelling disappeared in a few days.

On October 7th I was called in to see the swelling on the neck, and upon probing I found it was a deep-seated tumour, extending to the cervical bones. The pulse and temperature were normal, the animal was in good condition, and was eating and drinking well. The symptoms remained the same up to his death.

I injected the swelling with Fibrolysin on Friday, October 27th, and left word I would call to give another injection on Monday afternoon.

On the Monday mid-day the groom called at my house to say the horse was unable to move, and looked like falling down. When I got to the stable and tried to move the horse he was seized with violent tremors, became very stiff, and nearly fell down. Afterwards I noticed that these symptoms were produced when I raised the animal's head.

I gave a large dose of morphine and atropine, and advised my client to call in second opinion, or to have him destroyed. My client decided to wait till morning, when he rang me up to say the horse was down and could not move, and would I chloroform him to death.

Post-mortem.—I found the tumour to be tuberculous, also there were tuberculous masses in the parotid and pectoral regions. The lungs, pleura, liver, and spleen were not at all affected. There was also a tumour about the size of a pigeon's egg on the spinal cord in the space between the 1st and 2nd cervical bones, which was the cause of the spasms when I had raised the head. The bones were also affected, and the body of the dentata was cracked, but healed up.

I report the case to show how necessary it is to make microscopical examination of tumours, for the temperature and condition of this animal certainly did not point to tuberculosis.

PERCIVAL CARTER.

Collenards, West Derby.

TWO CASES FOR DIAGNOSIS.

The following case with post-mortem examination may be of interest to veterinary surgeons who have dog practice.

Subject.—Rough-haired fox-terrier, four years old, always very healthy.

History.—Refused food on morning of Nov. 3rd. I saw dog during afternoon, found him drowsy, showing pain over stomach and vomiting even cold water. All the mucous membranes yellow.

Diagnosis.—Acute jaundice, probably due to inflammation of the intestine around the bile duct.

Treatment.—Calomel, xv. grains, and Mist. pepsin co. 3i. doses every three hours. Death occurred on Nov. 5th after gradual weakening.

Post-mortem.—The intestine blackened and necrotic in patches size of a shilling. Gall bladder was found to contain only one large clot of blood. The blood clot was ante-mortem.

While recording cases the following is interesting.

Subject.—Heifer. I was called in on Oct. 22nd to find the beast grunting and showing labour pains. Examination showed abnormal foetal presentation. I proceeded to calve cow, then decided there was some disease in the stomach.

Treatment was first Ammon. carb. and Nuxvomica, then Chlorodyne, Tr zingib. As neither seemed to relieve the pain I told the owner it was about hopeless, and he was to go on giving the cow gruel and let her take her chance. The heifer had had already been purged by an old "cow doctor."

The beast died on Nov. 9th. I saw her on Nov. 6th last, and thought then the heart had become affected.

Post-mortem showed the stomachs healthy; intestine more or less inflamed; dry peritonitis; chest contained some gallons of milky-looking fluid, one lung showing tubercle that was about the same colour as fluid and very small.

Question—was the heart affected from the first sign of disease, or was the bowel the beginning of the trouble?

FRANK B. GREER.

Appleby.

AN UNUSUAL BOVINE GASTRIC DERANGEMENT.

We were requested at 11.30 p.m. to see a milch cow the property of M.O.H. The animal in question was in good condition and a heavy milker. It was ascertained on the morning of the same day she, along with two more cows, had broken into an orchard and had devoured a considerable quantity of "fallen" apples.

Symptoms. The animal moved with difficulty—suggestive of laminitis—back arched, abdomen slightly distended, muzzle dry and hot, breathing hurried; no rumen movements, the contents of which gave a doughy feel; bowels constipated. Temp. 104.3 F.; Pulse 65 per minute; appetite in abeyance, and the milk secretion stopped.

Sixty-eight hours after this cow was seen in the orchard she was sick, and discharged between 130 to 160 apples. These apples were nearly all whole, some were halved, and there were a few still more divided, and in addition a small quantity of ingested grass was present.

The whole apples when cut into gave the appearance of being partly cooked; otherwise they looked perfectly normal.

Remarks. I think several interesting deductions can be drawn from this case;

1. It speaks well for the cow's oesophageal capacity that she could devour greedily such a number of apples without choking.

2. One would have thought apples lying in the rumen 68 hours would have undergone more serious destructive changes than these did. Placed in a vessel under the same temperature and degree of moisture for the same length of time, fermentive and fungoid changes would have undoubtedly shown themselves. This rather suggests that the mucosa of the rumen and its secretions possesses anti-zymotic virtues which we practitioners are inclined to overlook, and further that they are not altogether obliterated when paralysis sets in, as was undoubtedly the case in this animal. Perhaps this anti-zymotic virtue also explains the absence of cerebral phenomena.

3. The treatment adopted was gastric and nervine stimulation. It took apparently nearly three days to rouse the rumen into activity, for one must conclude it was when this stage was reached that emesis set in.

The unique sidelights—to me at least—that this case presents, must be my only excuse for trespassing on your valuable space. The case made an uneventful recovery.

W. SCOTT.

Bridgwater.

ABSTRACTS FROM FOREIGN JOURNALS.

ASCARIS POISONING.

Dr. R. Goldschmidt, of Munich, discusses (*Münch. Medizin. Wochenschrift*) this well-known condition. Living ascarides, and still more ascarides which have been opened, give forth a peculiar, acrid, and very repugnant odour, which is somewhat weakened by preservation of the specimens in spirit, but nevertheless is still maintained. The exhalations, especially those from the fluid contents of the body cavity of the ascaris, are highly toxic to mankind. The mucous membranes are especially affected; and conjunctivitis with violent swelling and lachrymation, catarrh of the nose and throat, sneezing, coughing, loss of voice, and asthma set in. Spasmodic coughing, and asthmatic seizures regularly occurring at certain hours, are also observed; while further symptoms are nausea, vomiting, and painful swelling at the tips of the fingers.

Most men who occupy themselves with the preparation of ascarides—zoologists and so forth—

suffer more or less from ascaris poisoning. In most cases the individual susceptibility to the condition increases with continued exposure to the irritation, till even the slightest stimulation produces the symptoms. In isolated cases, however, a personal immunity seems to be present. *Ascaris megalocephala* of the horse is more toxic to human beings than *Ascaris lumbricoides* of the man and pig.

Nothing is yet certainly known of the nature of the toxic substance. Weinland has indicated free valerianic acid as an end-product of the metabolism of ascarides, and attributes the odour to this. This, however, does not explain the toxicity of the body fluids of the parasites. In conclusion, Goldschmidt points out, as being worthy of note, the striking correspondence of the symptoms of ascaris poisoning with those of hay fever.—(*Ber. Tier. Woch.*)

TRACHEAL PERCUSSION IN EQUINE PRACTICE.

Wirth describes (*Oesterreich. Monatssch. f. Tierheilk.*) the subject of tracheal percussion, which is a physical method of clinical examination introduced at the Vienna School a few years ago by Schindelka. It consists of percussing a pleximeter placed upon the trachea and auscultating the tracheal sound thus produced at the *pulmonary* surface. Two persons are necessary for this, one to percuss, and one to auscultate, the latter being the veterinary surgeon.

The normal lung, being a bad conductor of sound, permits the dispersion of the sound of tracheal percussion, which gives the impression of coming from a distance.

When the lung is hepatized, however, the auscultator hears the percussion sound very distinct, sharp, short, and directly under the ear.

When fluid is present in the thorax, the result is that the conductivity of sound is increased in comparison with the normal lung, but is weakened when compared with the thick hepatized lung. Auscultation yields a distinct short sound which, however, is not localised under the ear as in hepatization, but seems to come from a distance.

Wirth considers therefore that the special use of this method is to assist in the differential diagnosis of cases showing thoracic dullness.

Another article upon this subject appears in the same journal from the pen of J. Babor. This author has used the method upon many horses, including completely healthy ones as well as others suffering from pneumonia, pleurisy and pleuro-pneumonia.

He advises, as regards the technique, that the pleximeter should be applied completely, flatly, and firmly against the trachea. The region of the upper third of the neck is the most preferable one. The percussing strokes should not be too violent, and the pauses between them should be as nearly equal as possible. The auscultation is carried out in the usual manner, and should be extended to the normal portions of the lung in addition to the diseased ones.

Babor regards this method as yielding useful assistance in the differentiation between pneumonia and pleuro-pneumonia. It may also, in some cases,

when pulmonary "caverns" and bronchiectases sufficiently superficially situated, exist, and are already suspected on the ground of other symptoms, assist in their determination. In addition to its utility it is a simple and quickly executed procedure, its sole disadvantage being that two persons are required to carry it out.—(*Berliner Tierärztl. Wochens.*)

THE CHEMISTRY OF TRAUMATISMS.

Cadéac and Maignon, in previous researches, have already demonstrated the appearance of small quantities of sugar in the urine of animals submitted to various traumatismes, such as ligation of a limb *en masse*, crushing of the muscles with pincers, and fractures. Similar observations have been made in human beings affected with fractures and violent contusions. The sugar which is eliminated in the urine has its origin in the traumatised tissues.

Maignon has since carried out experiments *in vitro* upon organs which have been isolated and placed beyond the reach of microbes, in conditions permitting their survival. He has thus shown that all the tissues of the organism are capable of elaborating sugar like the liver, but in smaller quantities. Two causes favour this production of glucose, viz., asphyxia and crushing, and of these the second is more important than the first. Muscles taken from an animal recently killed, and crushed at some points between pincers, or subjected to strong compression, produce much more sugar than the same organs preserved intact.

In order to determine the mechanism of this favouring influence, Maignon has more recently carried out experiments upon the muscles of the dog. He has studied the effects of crushing pushed to its last extremes until trituration is obtained, and has noted the variations undergone at the same time by glycogen and glucose. He has always found a more rapid destruction of glycogen and a more marked production of glucose in trituated muscles than in muscles simply chopped.

He has also repeated the same experiments upon muscles which, immediately after death, had been washed with an artificial circulation of normal saline solution. This measure was taken to determine whether the traces of blood which remain in the muscles after bleeding play any part in the production of sugar. The results showed that the washed muscles, free from all traces of blood, nevertheless destroys its glycogen. But while, in the unwashed muscle, this destruction is always much more marked in the trituated portions than in those simply chopped, this is not the case in the washed muscle. In the latter the destruction of glycogen is not sensibly augmented by the crushing, and is sometimes even diminished. The glucose, however, is always much more abundant in the trituated than in the chopped muscles at the end of the experiment.

In chopped muscles, the destruction of glycogen is therefore the same in washed and unwashed tissues; but the results are quite different in trituated muscles, in which the destruction of

glycogen is augmented in unwashed tissues only. This proves that the action of crushing in encouraging the destruction of glycogen, which is seen in unwashed muscles, is due to the presence of traces of blood which the trituration has brought into contact with the glycogen.

These results permit of the more precise interpretation of the experiments upon living animals in which glycosuria has been observed to follow the ligation, crushing, or fracture of the limbs. The infiltration of the tissues by the blood plasma causes local glycolytic disturbances in the injured tissues; the amylolytic ferment of the blood, brought into contact with the glycogen, accelerates its transformation into sugar. In the case of a fractured bone, it is not necessary that the muscles should have been crushed in order to produce glycosuria; the fracture of the bone is sufficient, for it is always followed by hæmorrhage.

These considerations have some general pathological interest, for they explain such facts as the frequency of complications in contused wounds in which the tissues have been more or less bruised, the appearance of abscesses following simple contusions, and the development of white tumours in tuberculous patients after traumatism. They also bear upon the occasional sudden evolution of a latent infectious disease in consequence of traumatism, and upon the fact that, in animals resistant to the inoculation of infectious diseases, the disappearance of natural immunity has been noticed to follow upon traumatism. Nocard, for instance, has shown that the rabbit, which is naturally refractory to quarter-ill, contracts this disease if the muscle receiving the inoculation is struck violently. Cadéac has also noticed that the resistance of the dog to the same disease may be overcome by placing an elastic ligature upon the base of the limb which is inoculated.—*Annales de Méd Vét.*

A TRYPANOSOME OF THE SHEEP.

H. M. Woodcock has already found, in England, trypanosomes in a sheep, and he is of opinion that these trypanosomes stand in genetic relationship to the flagellate organisms *Crithidia melophagia*, which are often demonstrable in the well-known ovine parasite, the *Melophagus ovinus*. His original article upon the subject appeared in *The Quarterly Journal of Microscopical Science*, of November, 1910. Paul Behn, having heard of Woodcock's work, but without having access to his original article, has since been investigating the same subject independently at the Hygienic Institute of the Berlin Veterinary School.

Altogether Behn examined five sheep which were accessible to him at the Institute. In one only of these he found trypanosomes, but they were extremely few in number, and the general condition of the animal seemed not to be affected by their presence.

The only method by which Behn could succeed in demonstrating trypanosomes in this sheep was by examining so-called "thick drops" stained with Giemsa's stain. He regards this "thick drop" method as the simplest and most reliable means of

demonstrating the presence of trypanosomes when they are few in number, but it does not permit of their very accurate study. It certainly enables trypanosomes to be recognised as such, but does not permit exact observation of their morphological characters. In this case, however, no trypanosomes could be demonstrated by staining thinner layers of blood, or by centrifugalisation methods; and, in fact, they were so exceedingly few in number that only about one organism could be discovered in every fifth "thick drop."

So far as Behn was able to study the organism under these disadvantageous conditions, he describes it briefly as follows. The length of the trypanosome seems to range between 25 and 40 micro-millimetres, and its breadth is from 2 to 3 micro-millimetres. The macro-nucleus lies about in the middle of the body. The blepharoblast is fairly large, and lies considerably nearer to the macro-nucleus than to the tapering posterior extremity. Behn is not yet able to speak definitely of the length of the flagellum or the disposition of the undulating membrane, as both these structures can only very seldom be recognised in stained "thick drops."

The sheep in which the trypanosomes were found was the host of *Melophagus ovinus*, as were also two other of the sheep which Behn examined. Specimens of the *Melophagus ovinus*, when examined, were found to contain *Crithidia melophagia*.

Behn has already undertaken transmission experiments, by which he hopes soon to be able to give a more accurate account of the morphology of the trypanosome, and also eventually to clear up the question of its relationship to *Crithidia melophagia*. At present, he records his discovery of an ovine trypanosome as being the first observation of the kind, to his knowledge, made in Germany. Trypanosomes have also already been found in German cattle; and it is clear, therefore, that natural infection of both oxen and sheep by trypanosomes occurs in Germany. At present it seems very doubtful whether either the ovine or bovine German trypanosome has any pathogenic effect, but the further study of both species is desirable.—*Berliner Tier. Woch.*

Veterinary Degrees at Edinburgh.

The scheme of co-ordination between the University of Edinburgh and the Royal (Dick) Veterinary College, with the object of encouraging veterinary education by granting University degrees in B.Sc. and D.Sc. in veterinary science, will be submitted at an early date for the approval of the Privy Council. The candidate for the B.Sc. degree will require to have been engaged in veterinary study for not less than four academic years, and attendance at the Royal (Dick) Veterinary College is to qualify for admission to the University examinations for the degrees. It is also a provision that one year of study must be spent at the University of Edinburgh. It is proposed that the examination for the B.Sc. degree should comprise chemistry, botany, physics, zoology, anatomy, physiology, pathology, sanitary science, and veterinary hygiene. The degree of D.Sc. in veterinary science is to be open to those who have held the B.Sc. for three years, and the qualifying test is to be a thesis on original research work done by the candidate.

The Board of Management of the Royal (Dick) College have purchased a site at Summerhall, in the south-eastern part of the city, where the new headquarters of the College are to be established. Towards the estimated cost of £50,000 the Scottish Education Department has promised to contribute one-half. The other half has to be raised by the Board of Management, who have already received promises of nearly £20,000. An appeal is being made to those interested in the advancement of veterinary science to contribute the £5,500 still required.

Injury as a Causative Factor in Cancer.

Coley (*Ann. of Surg.*, April-May, 1911) attempts to disprove the view held by many practical surgeons, and recently advocated on statistical grounds by Phelps and Segond, that trauma has no influence whatever upon the development of cancer. Including under this term all forms of malignant disease, he argues that the old and popular belief of its origin in injury should be judged by the results of wide personal experience rather than by those of statistical study. Analyses are given of 970 cases of sarcoma and of 250 cases of carcinoma, all personally observed and carefully noted by Coley. In the first group a definite history of injury was made out in 225 cases, or 23 per cent. In 52 per cent. of these 225 cases the tumour developed within the first month after the time of the injury. In the series of 250 cases of carcinoma there was a history of antecedent trauma in 82, or 32·8 per cent. Of 120 cases of carcinoma of the breast included in this table, 50, or over 43 per cent., gave records of injury.

In dealing with the argument advanced by Segond, of the absence of any definite knowledge of the condition of the affected parts prior to the accident, Coley refers

to several instances in his own practice, in which the healthy condition of the seat of post-traumatic cancer had been proved immediately prior to the accident, by careful examination. The number of such instances is certainly very small, but it is held that it is quite logical to believe that in most of the other collected cases in which circumstances did not permit the fulfilment of strict scientific conditions, especially a medical examination directly prior to the injury, the trauma played the same rôle in the development of the tumour. In the final portion of his long and exhaustive paper which is continued in the May number of the *Annals of Surgery*, the author states that in his belief the evidence based upon his extensive personal experience justifies the following conclusions: (1) Local trauma of any kind, from chronic irritation to a single local contusion, is not infrequently the direct exciting cause of malignant tumours of all types. (2) That a single local injury may cause a carcinoma as well as a sarcoma, is no longer open to speculation. The cases that the author has submitted fulfil, it is held, all the conditions necessary to establish a definite causal relationship between a single trauma and the development of a cancer. (3) This relationship in no way depends upon our ability to offer a scientific explanation of it: nor does it depend upon the acceptance of any one of the various hypotheses as to the etiology of cancer. It can be equally well explained whether we accept the extrinsic or intrinsic origin of malignant tumours. (4) Medico-legal side: The medico-legal aspect of this question is as yet in a most unsettled state. While we must admit that trauma often plays an important causative rôle in the formation of malignant tumours, this relationship must be clearly and definitely established according to principles and conditions very similar to, if not quite so exacting as, those laid down by Segond, before any legal liability can be admitted. — B. M. J.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Out-breaks	Animals.	(including Farcy)	Counties Affected	Animals Attacked		Out-breaks	Out-breaks.	Slaught-tered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported								
Gr. BRITAIN.												
Week ended Nov. 11	17		20				5	15		15	32	357
Corresponding week in	1910	23		33			4	7	Essex 3	7	37	379
	1909	25		31			12	25		12	28	256
	1908	27		27			10	39	London 4	15	41	490
Total for 45 weeks, 1911	760		936		18	467	185	443	Middlesex 6	338	2146	25750
Corresponding period in	1910	1258		1503	2	15	323	940	Surrey 2	374	1292	12022
	1909	1125		1471			474	1636		510	1460	13117
	1908	947		1237	3	112	703	2190		678	1903	11373

Board of Agriculture and Fisheries, Nov. 14, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Nov. 11	1	1	...	...	...	...	...	4	7	108
Corresponding Week in											
1910	...	...	1	...	...	...	...	...	4	1	34
1909	...	...	...	...	...	...	...	...	5	...	...
1908	...	...	...	...	...	...	...	...	9	1	1
Total for 45 weeks, 1911	...	8	15	...	...	2	3	53	287	122	2109
Corresponding period in											
1910	...	7	11	...	...	1	2	63	391	83	1903
1909	...	8	8	...	...	...	...	70	335	86	1561
1908	...	7	10	...	...	...	...	35	309	153	3535

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 13, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Death from Glanders.

From an obituary notice in our contemporary, *The American Veterinary Review*, we take the following:—

"Dr. James H. Kelly died at his home in New Haven, Sunday, October 1st, 1911, in his fifty-fourth year, a victim of that horrible malady, glanders, after fifteen days of suffering, during most of which time he fully realised his condition and knew there was scarcely a fighting chance for life. In fact, it is believed he diagnosed his own case, and went to the physicians, his personal friends, with the facts. But even with this knowledge they were helpless, and despite every effort that they could put forth, and all the scientific knowledge they could summon to their aid, the brave patient at last surrendered and met the end with a calm courage and confidence that will always be a sacred memory to those who were near and dear to him.

The members of the American Veterinary Medical Association who attended its meeting at New Haven in 1906 will remember Dr. Kelly as the genial, active member of the local committee who looked after the entertainment and took care of the ladies in attendance. The line of carriages drawn up before the hotel headquarters to take the ladies to the points of interest in and around the "Elm City" is a sweet memory to many members of the association of the days when the horse was still an essential in the program of entertainment at A.V.M.A. conventions.

Cancer Research.

The tenth volume of the Annual Cancer Research Report from the Middlesex Hospital shows two points very fully—the vastness of the subject, and the very small knowledge which so far has been gleaned concerning it. No one of the researches can honestly be asserted to carry us one single step nearer the solution of the cancer problem, though some of them may very possibly do so indirectly by providing the basis of assured knowledge which shall enable some future worker to progress along lines not yet thought out.—*The Hospital*.

Horse Action at Dumfries.

Proof was led in Dumfries Sheriff Court on Thursday and Friday, the 2nd and 3rd inst.—before Sheriff Campion—in a small debt action by John Pollock, farmer, Papermill farm, Langside, Glasgow, against John Berwick, farmer, Albany Bank, Dumfries, for £100, being the agreed on price for a two-year-old Clydesdale filly named "Sweet Bloom," purchased by defender from pursuer on June 20, 1911, and delivered on July 3. The defence is that the filly was returned on the day after delivery on the ground that it was alleged to be unsound, having ringbone in both fore feet.

Mr. J. M. Haining, solicitor, Dumfries, on behalf of Messrs. Milligan and Stoba, writers, Dumfries, who were instructed by Mr. John Watson, writer, Glasgow, appeared for pursuer; and Mr. John Irving (of Messrs. Primrose and Gordon), solicitor, Dumfries, conducted the defence.

THE DEFENCE.

In view of the line of the defence the evidence on that side was first heard.

John Berwick, defender, formerly of the Burn, Thornhill, said he had some experience of veterinary science. He had an experience on farms for fully 30 years. On Whitsunday last he came to reside at Albany Bank. He had been Secretary of Dalbeattie Horse Society for 15 years. He had known pursuer for some time. He had visited his farm on various occasions along with the Dalbeattie deputation looking for horses to travel the

district. In June of this year he was in want of a mare or filly for breeding purposes, and wrote to pursuer on June 17 that he wanted a Clydesdale mare or filly. Pursuer replied on June 19 stating that he had a Clydesdale mare for sale. He stated that she was thoroughly sound and correct. He mentioned also that he had two fillies. He stated nothing about them being sound. Following upon that letter, witness arranged to visit pursuer's farm at Langside. He visited the farm on June 20. Pursuer then showed witness a filly. Witness discussed the filly with pursuer, and when he said it would not suit him pursuer said he had another at grass four miles away, and if witness saw her he thought he would buy her. Pursuer guaranteed that she was sound and correct. Witness said he would not have time to go so far, as he had to catch the train at St. Enoch Station. Pursuer said that if he would go he would see that witness got back in time for the train, and witness went. The filly's name was "Sweet Bloom." Her colour was bay, with white hair through her; her two forelegs were white, and she had a white patch on the face. The sum of £120 was mentioned as the price of the filly. Witness told pursuer that the price was too big for him. Witness did not examine the filly then. They then left the field where the animals were grazing. They went to Langside station. Witness had a few minutes to wait before his train was due. When witness and pursuer got to the station platform pursuer asked witness if he was going to buy the filly. Witness said he could not face her at the price, but he would give pursuer £80 for her if he would warrant her sound and correct. Pursuer said he would take nothing of the kind, because he had refused a higher offer. As the train came in witness offered to give pursuer even money—£100. Pursuer said he would not take that sum. Just as the train was about to leave, and before witness got into the carriage, pursuer said he would take 100 guineas. Witness said he would not give this price, and as the train was moving pursuer shouted that he would give the filly at £100. The same conditions applied in this bargain as in the case of the previous animals referred to as to the filly being sound. The following day the witness wrote to pursuer on June 21 confirming his offer of £100. Witness asked pursuer in this letter to confirm the bargain in every way. He also asked for an extended pedigree of the filly. Pursuer replied on June 22, but he gave none of the information witness asked. He simply said that the filly was thoroughly sound. After further correspondence pursuer sent the guarantee on June 30. The filly arrived on Monday, July 3. Witness examined her, and found a perceptible enlargement round each fore coronet. There was a decided ring above the coronet on the near foot. It was quite hard. On the off foot the enlargement was pretty much the same, but it was not so hard and not so full in front. After examination he came to the conclusion that the filly was suffering from ringbone. After he had examined it he went over to Mr. M'Intosh, veterinary surgeon, and asked him to examine the filly. Mr. M'Intosh came over, and examined it, and gave witness a certificate saying the filly was unsound. Witness then wrote pursuer enclosing a copy of Mr. M'Intosh's certificate, and intimating that he was going to send back the filly on the following day, which he did. The next time witness saw the filly was at Messrs. Shannon's livery stables, Glasgow, on July 12. Principal Dewar and Mr. M'Intosh accompanied him. The filly was trotted out on a hard surface. She was not going square then. Witness examined her again, and found the same as he had found previously. Pursuer and witness came to terms at that time with regard to the disposal of the animal for sale. The filly was sold at Messrs. Laurie and Symington's auction mart at Lanark on August 28 for £71 to Mr. Lorimer, West Linton. The auctioneer announced in the ring that he had been

instructed to state that there had been a dispute about the condition of the filly, and that she had been returned for ringbone, but that four eminent veterinary surgeons had certified that she was thoroughly sound. The auctioneer did not mention that the filly had been condemned by a veterinary surgeon for ringbone. He saw the filly trotted out in one of the aisles of the mart. The aisle was covered with crushed gravel. Mr. MacFarlane, veterinary surgeon, examined her. The filly was hampered in her action, but not exactly lame. Previous to Mr. MacFarlane's examination witness examined the filly himself, and found it in the same state again at West Linton, and she was going decidedly lame. Mr. Lorimer there told witness that she had been blistered. She was wearing a "cradle" round her neck. The purpose of this cradle was to prevent the animal from putting her head to the part to which the blister had been applied. This suggested to witness that something was being done for the filly. Witness was perfectly sure by examination of the filly at Albany Bank that she had ringbone, and subsequent examination confirmed that opinion.

Would you use a mare of that kind for breeding purposes?—Not if I knew it.

Is ringbone hereditary?—Yes, it is supposed to be.

Would that have any effect on breeding?—Certainly, it being hereditary.

Cross-examined: Witness did not consider that Mr. Pollock's statement that the filly was thoroughly sound was a guarantee.

Do you consider that there was any attempt on the part of Mr. Pollock to evade giving a guarantee of soundness?—I was very much astonished at having to write five times before it was forthcoming.

If I tell you that this is a full guarantee of soundness will you admit that you have made a mistake in writing so often to Mr. Pollock?—Certainly not.

Witness said he did not examine the filly at Langside. Perhaps he put his hands on her to get her height. He did not use his hands on her feet or legs.

Was this filly a fine-boned or a strong-boned filly?—I would say fine-boned or good quality of bone.

Would you say fine-boned or good quality of bone?—I would say good quality, fairly strong-boned.

Does that mean strong-boned or fine-boned, which?—She was a quality filly all over.

Tell me what she was?—I think, generally speaking, a strong-boned animal would be an animal with round bones, which would be very objectionable. This filly has bones which one generally calls quality bones—broad, fine bones.

In the course of further examination witness said that the hoof heads were very prominent. She had a fairly good foot.

In the hands of careful judges do you think they would give a prize to a horse with ringbone?—Sometimes.

Witness would not be surprised if this filly had taken a prize. Regarding the treatment to the filly at West Linton, witness said that he had been told that the blister had been applied to her fore pasterns and her hoof heads. It was indicated to witness that the blisters were put on to increase the growth of hair. This was a common practice amongst Clydesdale breeders. But the blisters in this case might have been intended to serve a double purpose. The party who applied them might have thought that that they would remove the enlargement. The blisters took no effect on the filly's feet.

Re-examined: Witness said that it was at a small local show at Cathcart, held on Papermill farm, that the filly took a prize.

EXPERT EVIDENCE.

Andrew J. McIntosh, M.R.C.V.S., Dumfries, consulting inspector for the County, said that on Mr. Berwick's in-

structions he went to Albany Bank and examined the filly. It was not a general examination but a special examination. He found the two pasterns enlarged, and he considered the filly was unsound from ringbone. He gave a certificate to that effect.

The Sheriff: Is there any chance of making a mistake, or that it is anything else?—No, I have no doubt. I saw it with my own eyes, and confirmed it with handling the feet.

In further evidence witness said he found that the near foot was hard and firm. The off foot was slightly more inflamed. The ring was less complete in the off foot than in the near foot. Any man who knew his profession could easily distinguish inflammation of the coronary substance from ringbone. There was greater lameness shown in the animal's movement with inflammation than with the ringbone.

Cross-examined: Witness said it was not the case that he had unusual views in regard to ringbone. Unless animals had ringbone he did not reject them.

Would you be surprised to hear that many eminent veterinary surgeons have stated there is no ringbone in this case?—A man should not be surprised at anything, but I would be surprised at a professional man who knows his profession doing so. She had good big feet in keeping with the rest of her structure. The ringbone in this case could not have been less than two months old. It might have been more. He did not think it was usual to find ringbone on a two-year-old filly that had never worked. He would scarcely say that in the majority of cases there was lameness with ringbone. He thought there was a natural hereditary tendency in this animal to have ringbone, because she had never worked, so that it was developing rather early. There were various causes of ringbone. The filly might have sprained herself galloping in the field, or she might have had an injury. There were different cures for ringbone, such as firing and blistering, or a continuous mercury plaster was sometimes used. An absorbing plaster with continued application was the best cure in his opinion.

Were you not surprised at the price she sold for when you had condemned her for ringbone?—Well, you don't know the machinery that may be at work. (Laughter.)

John Robert Urquhart Dewar, F.R.C.V.S., 18, Drummond Place, Edinburgh, said that he visited livery stables in Glasgow in July, and examined the filly in question. He found her, in his opinion, unsound from ringbone in her fore pasterns and off fore leg. The filly went lame. The irregularity was not the same in both feet. The ringbone was worse in the near foot. Towards the inside of the off foot it was worse outside. He had no difficulty in finding the disease. He was perfectly satisfied that it was ringbone. An animal suffering from ringbone would not be desirable for breeding purposes. Nobody who knew their work would confuse ringbone with any other disease. The pasterns of the filly were not normal; they did not correspond. He gave a certificate stating that the filly was unsound from ringbone.

Cross-examined: Witness said that he could not give an indication of the depth of the deposit in the bone. He never measured into ringbone in his life. It could not be measured in a living animal.

Can you give me an indication of the depth of the deposit?—It is not three feet. (Laughter.)

Mr. Haining: There is no need for that observation. Can you give me any indication?—It must have been over one-sixteenth of an inch. He could not say it was half an inch. There was nothing abnormal or unusual otherwise about the filly. It had just the average size of feet. He was of the opinion that the ringbone was hereditary. His reason for thinking that was because the filly had never worked. It was unusual for a filly of this age that had never worked to have ringbone. Ringbone showed most when the ringbone was forming. In

stages of ringbone there might be no pain, but they were difficult to specify.

Oh, but you are a professor and should have no difficulty?—But professors have difficulties as well as lawyers.

Richard Rutherford, in practice at 26, Castle Terrace, Edinburgh, who has for 25 years acted as examiner of the Royal College, said he visited the livery stables at Langside on 14th July at the request of Mr. M'Intosh, examined the filly in question, and found it to be unsound from ringbone disease on both fore pasterns. She was lame on the right or off foreleg, where the enlargement was the larger of the two. The disease could not be mistaken for anything else by any professional man who knew his business. Any natural enlargement of the bones would have been the same all round, which was not the case here. With that disease the filly would not be suitable for breeding purposes, as on account of its being hereditary horses with ringbone were banned by all the respectable horse-breeding societies in this country and by the colonies.

Cross-examined: He was not a breeder, and it would take a breeder with large experience to say whether it was usual to find ringbone in animals so young, but as an examiner for shows he could say unreservedly that it was quite usual to find it at two or three years old. He had seen hundreds of cases of pronounced parts due to conformation, but there was nothing of the sort in this case. The ringbone should have been visible three months before he saw it.

The Sheriff: You mean by a professional eye?—Clydesdale breeders have professional eyes sufficient for most purposes. Ringbone caused lameness during the active stage when the disease was being thrown out, and in its uninterrupted progress the horse would get so lame as to have to be destroyed, and hundreds of horses were sent out of this country to the continent, because not allowed to work with it. He had never seen, but had heard of a case in which a horse was said to be condemned for ringbone of all four pasterns, but fortunately or unfortunately, it took colic and died, and the horse was found to have had nothing wrong with it. (Laughter.) That was a mistake for normal prominence, but it happened in the case of a young examiner, and not an experienced practitioner.

Andrew Spruell, F.R.C.V.S., Dundee, said he visited the livery stables on July 19th, examined the filly, and found her fore feet "lumpy" round the coronet in process of forming ringbone. He could not definitely say she was lame, but she was going "short," which was especially noticeable in turning. He did not think there could be any natural formation that could produce that lumpiness. The disease would certainly have existed on 20th June last, and the filly would be quite unsuitable for breeding, because of the hereditary nature of the disease.

Cross-examined: The extent of the deposit on the off fore leg would be about an inch, tapering off, and that would be about the point of greatest development. He could best describe it by saying if one were to take a bantam's egg, split it in two, and lay the half on the place that would give about the depth at the most prominent part, giving about half an inch. He did not think the joint was affected, but it would be as time went on. She was a very nice filly, apart from this. Until Clydesdales went to work this disease was rarely found in them.

John Baird, M.R.C.V.S., Dumfries, formerly at Thornhill, Dumfries, and Keighley, Yorkshire, said he inspected the filly at the Langside stables on 21st August, and found the same conditions as previous witnesses. When the filly was being trotted out Mr. M'Intosh shook his umbrella, and she made a jump, and came down dead lame on the off fore foot. It was an ordinary macadam

road. The symptoms could not be mistaken for naturally large articulation of the joint.

Cross-examined: He did not travel with Mr. M'Intosh to Glasgow, but met him at St. Enoch's. Mr. M'Intosh simply told him he was wanted to examine a horse, and he (witness) did not know beforehand what was supposed to be wrong. He did not think the ringbone could have been passed by any qualified V.S. He was an old student of Principal M'Call, Glasgow.

He could not miss that?—I can't say; it is not for me to say. (Laughter.)

You could not understand any professional man passing it?—Any man could do what he likes, but I would not have passed it.

Have you advised anybody in this neighbourhood to bid for it at the sale as a breeding filly?—No, I have not. I am quite positive as to that.

Duncan Macfarlane, M.R.C.V.S., Stirling, said he went by request on 28th August to Messrs. Laurie and Symington's mart at Lanark, and examined the filly, and found the pronounced symptoms of ringbone. He had her trotted out in a passage between the pens laid with soft metal, which gave her a good chance, as the concussion would not be very hard. She went quite "creeping" on both fore feet—not going free although she did not nod like a lame horse.

Cross-examined: Mr. Berwick, who wrote asking him to go to Lanark, was quite a stranger to him. He saw the filly sold, and she made £71.

Was that a price for a lame horse to make?—I did not say she was lame. It was well enough known the beast was in dispute, and as far as the price was concerned I do not think it should come much into question, as sometimes these things are got for a purpose.

But she did get rather a good price; would not that make you inclined to think some people thought the filly all right?—Some people might not see anything wrong with it. I saw one of the farmers put his hands on it and say, "I don't think there's much wrong with it," but that is nothing. (Laughter.)

Re-examined: When sold she was not run much round the ring; she was merely walked round. The fact she was in foal to a well known horse would make a big alteration in her price. He heard the auctioneer say the dispute was about ringbone, but did not hear him say that she had been passed by anyone.

Alex. Inglis M'Callum, M.R.C.V.S., Edinburgh, said he inspected the filly at the farm at West Linton on 30th September with Mr. M'Intosh, V.S., Mr. Berwick, and Mr. Storey, V.S., of East Linton. He found the ringbone distinctly visible without manipulation before handling. The filly would be quite unsuitable for breeding "because like begets like." She was a beautiful mare but for this defect. She had a cradle on her head; he was told some application had been applied to the diseased part, but saw no traces of the treatment, though he understood it had been only recently applied. He did not see that the application was necessary to increase the hair on the pasterns, as there was plenty of it and silky. She was unsound in both fore feet from the ringbone, and the right foot was hot, and at the inflammatory stage.

Cross-examined: There was nothing else to account for the lameness, and he himself tried the shoes with a hammer.

John Storey, M.R.C.V.S., East Linton, spoke to making examination on the same date as previous witness, and finding similar results.

Cross-examined: He would not like to say that the beast was going lame from inflammation.

But quite a number of witnesses have had no difficulty in saying that?—Perhaps, but I may not be so clever as some of them. (Laughter.)

But you may be more conscientious. (Laughter)?—

All I can say is she was not going dead lame, though lame.

Proof was continued on Friday.

THE PURSUER'S CASE.

John Pollock, the pursuer, said he had had experience of Clydesdales for 40 years. He had possessed in his time some of the best and most valuable Clydesdales, amongst which were Flashwood, Gallant Lea, Hiawatha, and Montrave Viceroy. He had bought them at all ages and at large prices. From his experience he could distinguish ringbone. He bought this filly when she was six months old. He knew the filly's pedigree, and there was no trace among the entries in that pedigree of ringbone or any other disease. Her predecessors had been shown for the last 50 years, and never were condemned neither on her sire's side nor the dam's side. The filly was shown at Cathcart and Eastwood show, where there was a very good show of Clydesdales. This filly was first in her class after a tie. She was carefully examined particularly, because there was a tie. The judges were well-known Clydesdale men. The filly was carefully examined by Mr. Berwick, the defender, when he came to Papermill farm. He ran his hands over her just in the proper places and way, so that witness remarked, "Ye ken a horse, my good man." Mr. Berwick put his hands on the hoofs of the filly, and had no objection to make. Witness declared that she was sound, and he considered that that was all the guarantee required. He thought Mr. Berwick's reason for writing so often for further guarantee was that he was wanting to get out of the deal. Before he sent the filly to Mr. Berwick, and as the result of the correspondence, witness took the precaution to get Prof. John R. McCall to examine the filly. He granted a certificate that she was sound. In an auction mart the statement by the auctioneer or in a catalogue that a beast "is sound" included everything. Defender had never asked him for a veterinary surgeon's certificate. Witness had had a previous offer on the day of the cattle show on June 3 by Mr. John F. Houston, veterinary surgeon, Paisley, of £100, but he did not accept it. Mr. Houston was acting for a friend. Mr. Houston examined her twice that day. Witness had also visit from Mr. David Hume, M.R.C.V.S., Haddington, who examined the filly, and said it was sound and correct. He also was acting for a client with a view to purchase.

Cross-examined: I was in court all day yesterday. I did not see Mr. Lorimer, the present owner of the filly in court. I do not know him.

Were you and your witnesses all staying at the Station Hotel last night?—Yes.

Did you discuss in presence of the other witnesses to follow you what had happened in court?—No.

Was Mr. Robb, jun., of Glasgow, who was assisting your agent yesterday, not present in the hotel with your witnesses?—He went away home last night.

Was he not present at a discussion with your other witnesses as to what happened in court?—I cannot say, for I was not present at the time.

Was the evidence of the various expert witnesses for the pursuer under discussion amongst you last night?—Oh, it was talked over.

Did you resolve what line to take up to-day in view of that evidence?—Only one line—to tell the truth.

In particular, was not the evidence of Mr. Baird, Dumfries, discussed last night in your presence and the presence of Mr. Robb?—Oh, they might all be talked over.

The Sheriff: That sort of thing is unavoidable when you have a two-days' proof.

In further cross examination witness said the filly was bred by Mr. James Dunlop, Old Hall, Fenwick, Stewar-

mother had been sold for £180. There were four fillies at Cathcart show.

Mr. Finlay Houston, veterinary surgeon, 26 St. James Street, Paisley, said that he had examined the filly twice on the day of the Cathcart show. She was absolutely sound. He offered Mr. Pollock £100 for her, but Mr. Pollock wanted £110, and he did not sell it.

Cross-examined: Witness said he had never seen the filly since. It was quite possible that there might be something wrong now. That was five months ago. She had beautiful fine bones. There was a small splint in her fore leg. There was no swelling, and she was absolutely sound.

Andrew Hume, veterinary surgeon, Haddington, said he had examined the filly on June 12, and found her absolutely sound in every respect.

John C. Johnstone, veterinary surgeon, Peebles, said he examined the filly at West Linton on September 26 for the insurance company, and found her absolutely sound. He saw her again on Oct. 14. He examined her again, and she was still sound.

Cross-examined: Mr. Lorimer had been treating the filly's hoofs. The purpose of the blistering was to increase the growth of hair.

Prof. John R. McCall, M.R.C.V.S., Glasgow, said that at Mr. Pollock's request he examined the filly on July 1. He granted a certificate to the effect that the filly was sound with the exception of a small splint on the fore leg. He did not call that unsoundness. He guaranteed the filly sound and free from all hereditary diseases so far as he could detect. He found it was very rare to see ringbone in a Clydesdale less than four years old. Ringbone gave rise to lameness in its formation. He was an authority on bone diseases. It was one of his subjects in his lectures.

Cross-examined: Is a splint unsoundness?—It is not a real or practical unsoundness.

Would a mare in splint be considered to be sound and correct in every way?—That is a legal question.

Further pressed for an opinion on the matter, witness said that there were perhaps 80 per cent. of harness horses that had splint, and yet were perfectly sound. There were some varieties of ringbone which were believed to be hereditary. A horse suffering from ringbone was usually banned in a horse-breeding society. It was not wise to breed with mares suffering from ringbone. But it depended on the variety of ringbone.

In a young animal what would you expect to be the cause of ringbone?—It might be various causes.

Is the commonest cause hereditary?—There are so few cases seen in young animals that it would be difficult to answer that question.

Witness could not recollect having examined a two-year-old suffering from ringbone. He had seen two cases in young animals of so-called ringbone, but these were caused by accidents. It was quite possible that a two-year-old animal could have ringbone.

James Weir, farmer and horse-breeder, Sanderlands, Lanark, said he had acted as a judge for Clydesdales in the United Kingdom, America, and Canada. He was at Messrs. Laurie and Symington's Auction Mart, Lanark, on August 28th, when the filly was sold. He examined the filly before the sale, and he found her sound so far as he knew. He did not find the slightest trace of ringbone. None of her forebears had had ringbone. They were all very prominent high-class horses. He advised Mr. Lorimer to use a liniment to increase the growth of hair over the hoofs, and as Mr. Lorimer was not long in the business witness prepared a liniment and sent it to Mr. Lorimer.

John Jarvie, veterinary surgeon, Carluke, said he was veterinary referee for Messrs. Laurie and Symington, Lanark. He examined the filly the day it was sold, and found it was thoroughly sound.

Andrew Robb, veterinary surgeon, 16, Ward Street, Glasgow, said he examined the filly at Langside on July 4th, and granted a certificate that the animal was sound on the following day.

Thomas Purdie, Summerville, Sanderlands, Lanark, described as a well-known dealer in Clydesdales, said he examined the filly at Messrs. Laurie and Symington's Auction Mart, and found it was sound. It got a sufficient test to show any lameness. Witness made a bid for her.

Cross-examined: He did not buy her, because it went beyond his price.

A CASE OF MISTAKEN DIAGNOSIS.

Principal James McCall, F.R.C.V.S., Glasgow, said he had been a member of the Council of the Royal College for upwards of 30 years, was lecturer in the Edinburgh College from 1857 to '59, and in 1863, founded the Glasgow Veterinary College, and had since acted as principal, and held many official appointments, including that of veterinary inspector for the Local Authority of Glasgow, among the duties under which were those of the examination of cattle and horses exported and imported. He had been a breeder of horses since 1865. He knew Mr. Pollock as a well-known breeder, and on his behalf examined the filly Sweet Bloom on 19th July of this year. He found her perfectly sound. She was quite a strong, healthy animal, with bold and prominent hoof heads, in keeping with the formation of her limbs. She has good big feet, and in his opinion these were absolutely free from disease. It was most exceptional to find ringbone or sidebones in a two-year-old Clydesdale.

Have you ever seen a case where strong prominences or pronounced joints have been mistaken by a professional man and others for ringbone?—I have. I can cite one particular case. In the first place I may say I have a difficulty in getting my students really to believe that there are two conditions that assimilate to one another very much, and that is the natural prominences of the bones and the unnatural, abnormal or diseased prominences. There was a stallion belonging to Mr. Graham, of Eden Grove, Carlisle, which was exhibited about twenty years ago at the English Agricultural Society's show, and was placed first. Before a prize is got there an examination of the beast is conducted by several veterinary surgeons. It was also shown at some other shows, and after being examined placed first. Then it was shown at the Yorkshire Society's show, and was drawn among the horses to get a prize, but when submitted to veterinary examination was condemned for having ringbone. After the horse came back Mr. Graham wrote to me to come and examine the horse. I was perfectly ignorant of what the horse had been rejected for, but I knew I would not be there unless there was a dispute, and I made my examination all the more stringent. I told Mr. Graham and his veterinary surgeon, Mr. Bell, of Carlisle, that I could not see anything wrong with the horse, and that he was very sound. He replied, "Will you be kind enough to put your hand over his hoofheads, he has been condemned for ringbone?" I went back and did so, and said "No, I cannot agree with that. There are prominent sides to the bones all round, but I do not consider he has ringbone." Unfortunately that horse died within a month or two, and a preparation was made of his bones, but not by me, neither did I see the bones, but the bones were submitted by Mr. Bell, of Carlisle, at a meeting of the North of England Veterinary Society to the members present, and there was not a vestige of ringbone, but only prominences of the bones. The formation of hoof heads and pasterns of this filly in question were just identically the same as that of that horse. They were normal, and there was not a vestige of abnormal growth. These

prominences are in some animals much more developed than in others. It is identically the same with the wrists of the human subject. I would find a considerable number of persons with much larger prominences of wrist than myself, and it might as well be said that that was ringbone. I am of opinion that the filly has very prominent processes. She is just the thing I want with good big bones, clean bones, and a big hoof head. It does not matter how good the animal may be, Clydesdale breeders won't give the price unless it has big feet, because it requires to have a big foot to carry a big body. It is also very desirable to have longish hair on the hoof head; when you have a nice quantity of hair flowing over the coronet it makes the foot look the bigger, and it is quite common to blister round the coronet to stimulate the growth of the hair.

Cross-examined: Have you come across ringbone in two-year-olds?—I have come across two-year-olds that were said to have had it, and they had not. I never examined a two-year-old or younger animal suffering from it. I have seen them said to have ringbone when it was only natural formation.

But in that case would you not have symmetry all round the bone, whereas in ringbone it might be in patches?—Yes, quite.

There is nothing impossible about finding it at two-year-olds?—No, but that would as a rule be from external injury.

Might it not be hereditary at that age?—I cannot tell, no man can tell when it is hereditary or not. It might be hereditary from predisposition.

Re-examined: Did you ever feel ringbone that yielded to pressure?—It could not; it is a bony substance.

We were told by Mr. Spruell, of Dundee, that he considered there was ringbone on this filly's fore feet, that it had been growing a year, and that it still suffered from it. Could that possibly be true?—I don't understand it. I would not like to say it was untrue, but I cannot believe it. (Laughter.)

James Lindsay, veterinary surgeon, Dumfries, said he examined the filly, Sweet Bloom, in the livery stables at Glasgow on July 24th. He made a thorough examination of the filly, lasting two hours. He moved and trotted her about. He found her absolutely sound. There was no suspicion of ringbone about her. She went sound and sweet.

Would you be surprised to hear that witnesses have said the filly has large articulation?—I would not be surprised at anything.

Mr. Hainz asked permission to put Mr. Lorimer in the witness-box to clear up the matter in regard to the application of liniment to the filly's feet.

Mr. Irving took objection to this evidence, because there was no citation, and because Mr. Lorimer was in the court while Mr. Berwick was examined the previous day, and also during part of Mr. McIntosh's evidence. He thought it was quite irregular that this witness should be called.

The Sheriff agreed to allow the evidence.

Henry Lorimer, West Linton, the present owner of the filly, said he had used the liniment on the hoof heads for the purpose of making hair grow on the filly's legs. He was advised to do this by Mr. Weir, Lanark, and he received the liniment from him.

Robert Pollock, Papermill Farm, Langside, Glasgow, son of pursuer, said that it was he who drove his father and defender from Papermill Farm to the place where the filly was grazing four miles from the farm on June 20. He was there when defender was looking at the filly. Defender examined the animal, and was clearly satisfied with it. He examined the hoofs, as any business man would do.

This concluded the evidence, and the case was adjourned for debate.

ANNUAL REPORT, ARMY VETERINARY DEPARTMENT,
INDIA, 1901-11.

The Report to hand, like his predecessors, records a long struggle against animal diseases at odds which we in Britain cannot realize—the bald figures may reach our understanding, they fail to impress our imagination. Throughout the report is the same undernote of increasing work, with little increase in men to meet it. The following extracts give an outline of the report :

OFFICERS OF THE CIVIL VETERINARY DEPARTMENT
FOR THE OFFICIAL YEAR APRIL, 1910, TO MARCH, 1911.

Inspector-General	Col. H. T. Pease, C.I.E.
	Lieut.-Col. G. H. Evans *
Imperial Bacteriologist,	Maj. F. S. H. Baldrey
	Maj. J. D. E. Holmes, M.A., D.Sc.
Assistant	H. E. Cross, Esq.
Physiological Chemist,	P. Hartley, Esq., D.Sc. (Lond.)
Supt. Government	Lieut.-Col. J. Farmer
Cattle Farm, Hissar,	E. W. Oliver, Esq.
Supt. United Provinces,	C. W. Wilson, Esq.
2nd Supt.	Maj. G. K. Walker
Chief Supt., Punjab.	V. de V. H. Woodley, Esq.
Supt. N. W. Frontier	"
Prov. and N. Punjab,	S. Carless, Esq.
Supt., South Punjab,	G. Taylor, Esq.
Supt. Sind, Baluchistan	Maj. A. S. Trydell
and Rajputana,	Maj. A. Smith
Prin. Punjab Vet. Coll.,	E. Burke, Esq.
Prof.	S. H. Gaiger, Esq.
Prof. Sanitary Science,	M. H. Sowerby, Esq.
Punjab Vet. College,	K. Hewlett, Esq.
Principal, Bombay	N. D. Dhakmarvala, Esq.
Veterinary College,	M. H. Sowerby, Esq.
Assistant Principal,	K. Hewlett, Esq.
Bombay Vet. College,	Lieut. Col. H. M. Maxwell
Supt., Bombay,	Col. F. Raymond
Prin. Bengal Vet. Coll.,	D. Quinlan, Esq.
Supt. Bengal,	W. Harris, Esq.
" E. " and Assam,	D. A. D. Aitchison, Esq.
Prin. Madras Vet. Coll.,	Capt. W. O. Dawson
Supt. Madras,	F. Ware, Esq.
" Burma,	Lieut. Col. G. H. Evans
2nd Supt. Burma,	C. J. N. Cameron, Esq.
3rd	"
Superintendent,	F. Ware, Esq.
Central Provinces,	Maj. F. H. S. Baldrey
Veterinary Officer Inves-	Col. H. T. Pease, C.I.E.
tigating camel diseases,	A. S. Leese, Esq.
Attached for training	R. Branford, Esq.
Punjab	J. G. Cattell, Esq.
	S. Carless, Esq.
Central Provinces,	Maj. W. O. Dawson *
Gov. cattlefarm, Hissar,	R. Branford, Esq. *
Bengal, Vet. Coll.,	P. J. Kerr, Esq. *

* The second name is the officer holding office, March, 1911.

VETERINARY INSTRUCTION.

Bengal. Taking the percentage of passes, the Bengal College stands first. In the first year's class, 39 students out of 50 sent up were successful; in the second, 28 out of 37; and in the final year's test 35 out of 46, giving a general average of 76.69. During the vacation, eight Army transport drivers were trained as dressers.

The number of cases in the hospital was 5869 against 5680. The fees realised for treatment, etc., amounted to Rs. 14,869-12-8. A new ambulance was urgently needed

and Babu Govindram Singhonia presented Rs. 1000 for the purchase of a conveyance.

The Principal remarks on the difficulty in obtaining funds for the further development of the College.

Punjab. In the first year's class there were 63 students of whom 48 passed; 76 in the second year, and of these 59 were successful. Out of a class of 76 in the final year 53 qualified, giving a general percentage of 74.41.

In addition to the ordinary work, a three months' course was given to 43 men from the Transport Department. A nine months' course in practical shoeing was arranged for; 22 men attended, and at the examination held on completion of the course, 16 men satisfied the examiners.

The number of cases treated during the year was 5597. The sum of Rs. 12046-11-1 was paid into the Treasury.

Madras. First year's class number presented 18, passed 13; second year 22, passed 16; and in the final year—18, of whom 10 qualified. General average 67.24 per cent.

At this College owing to the small number of pupils in each of the classes, the lecturers were able, and evidently had devoted much trouble and care to the training of the students, and the examiners were gratified to find the successful students so well up in their work.

The number of cases treated in the hospital was 2145, and the receipts from hospital charges amounted to Rs. 11,099-14-6.

The Principal has pointed out the great difficulty experienced in obtaining sufficiently educated students. During the year, after advertising the College prospectus in the Fort St. George and local gazettes, and having expended the sum of Rs. 1200 in advertising in newspapers, he succeeded in obtaining only 11 matriculates. This difficulty exists elsewhere. The task imposed on lecturers in expecting them to teach Indian students up to a certain standard, is rendered doubly difficult when in order to make up classes, they are obliged to admit students known to them to be very deficient in general education.

Bombay. 23 students presented themselves for the first professional and 15 passed; in the second year 27, of whom 21 were successful; and in the final year's class, 41 men appeared and 22 passed. General average 63.73 per cent.

During the long vacation, a class was held for the training of drivers of the Supply and Transport Corps as dressers. Thirteen drivers attended the course.

During the year, 4550 animals received treatment. Receipts amounted to Rs. 8887-10-0.

Various improvements to the College buildings have been carried out. Owing to a comprehensive scheme for the general improvement of the College premises being under consideration, the construction of certain proposed buildings has been held in abeyance.

Burma. At the beginning of the year there were 33 pupils in the School—20 in the senior and 13 in the junior class. Eighteen pupils in the senior class were examined and 14 qualified. A fresh batch of 13 pupils has been admitted.

There has been a considerable increase in the number of cases treated at Insein, 738 against 240 last year, and there seems ample reason to believe that when suitable accommodation (which at present is temporary) is provided, that a further increase may be anticipated. The work at the laboratory has also increased to a great extent owing to the large number of specimens received from all parts of the Province. The Superintendent observes that, "the efforts of the staff have been taxed to the utmost to deal with the amount of work now presented, and will be totally insufficient to cope with much further increase."

TREATMENT OF DISEASE.

The total mortality reported, as compared with the previous year, shows a decrease of 461 under "Equines," and increases of 6942 and 423 under "Bovines" and "Others," respectively.

Glanders. The number of cases of glanders reported is 229 against 236 in the previous year. Of the total number, 130 or nearly 57 per cent. were reported from Bengal. East Bengal and Assam shows an increase of 35 over last year's figures, Punjab 3, and North-West Frontier Province 2. United Provinces show a decrease of 17 and Bengal 30. Diagnosis was in all cases confirmed by the mallein test.

The policy of granting compensation to owners of animals destroyed for glanders is reported to have greatly improved the working facilities for the suppression of this disease. Measures can now be promptly taken to stamp it out.

It may not be out of place to mention here, that owing to the very serious prevalence of glanders within the municipal limits of Rangoon, especially so in the gharry stables of the town and suburbs, the services of an officer of the Civil Veterinary Department was specially asked for to assist the municipal authorities in dealing with the disease. Mr. Branford was placed on special duty on the 23rd December and remained on this work till the 15th March, when he had to leave in order to take charge of the Hissar Farm during the absence of Lieut. Colonel Farmer whose state of health necessitated his proceeding on leave.

Such work, at all times unpleasant, was rendered exceedingly so owing to the hostile attitude of native owners. I have great pleasure in reporting that Mr. Branford merits much praise for his tact and care in dealing with the people, and also for the amount of work he performed during the above-named period.

Anthrax. A decrease is reported under this heading, the number being 16,425 "Equines," "Bovines" and "Others," against 17,264 last year. Under the head "Equines" 46 deaths are reported against 51 in the preceding year. The diagnosis of cases of Anthrax reported from the United Provinces, Central Provinces, Bengal and Eastern Bengal and Assam, was confirmed by bacteriological examination.

Surra.—The total mortality recorded is 767 against 1,126 last year. After the annual report had been sent to the Press, 417 cases were reported amongst mules and ponies in Burma, of which 312 cases were recorded in North Shan States, 78 in South Shan States, and 27 in Burma. Surra is believed to have been rife amongst caravan animals returning from Chiengmai (in Siam) and to have been generally prevalent along the Burma-Siam frontier.

There is no question that many more cases occurred than those recorded.

Other contagious diseases.—The number of cases reported under this head amounts to 46,542 against 47,143 last year. No details, however, as to the nature of these ailments have been furnished.

Rinderpest.—The number of deaths reported this year is 156,978 against 158,425 shown in last year's returns.

Foot-and-mouth disease.—A decrease is shown under this head, the figures being 25,548 against 27,041 last year.

Hæmorrhagic Septicæmia and Black-quarter.—The total number of deaths recorded under these two headings is 63,413 against 52,370 last year. Preventive inoculation against these diseases was adopted with encouraging results.

Other contagious diseases met with among animals in addition to those already specified, were distemper, rabies, and contagious pleuro-pneumonia. Increases are recorded under rabies and pleuro-pneumonia.

Camels.—Some items of interest from a detailed report which has been submitted, are as follows: Mortality in 8 Silladar Camel Corps now down to 13·3% on an average strength of 8,230 camels, which is satisfactory. A very interesting note on surra spreading in the sandy desert of the Bikanir State. That camel surra may spread in years of unusual rainfall in this desert is rather a startling fact. No such outbreaks have been observed in the deserts of the Punjab. The only species of biting fly present was a *Lyperosia* (*Lyperosia minuta*, Bezzi). These flies occurred in swarms on every camel, particularly favouring the lower portion of the neck, region of the hump and knees. They are a source of great annoyance and cause intense irritation. *Lyperosia* appear to have only once before on good grounds been suspected as a transmitter of surra, i.e. amongst cattle in Rhodesia (Kinghorn and Montgomery). It is clear that this outbreak occurred in the absence of *Tabanus*, *Stomoxys*, or other biting flies.

Mr. Leese has continued to devote himself wholeheartedly to the study of surra and its treatment. Every endeavour is being made to supply him with affected camels in a condition fit to undergo treatment, in order that he may have ample material to uninterruptedly pursue his investigations. Some cases have apparently been cured, but in regard to statements of cures in camels much caution is desirable owing to the peculiar characters of the disease in these animals. The treatment considered most promising is by the use of Atoxyl and Tartar emetic (intravenously), and Sodium Arsenate solution (per os).

Bilharziosis.—During a search for adult filariæ a parasite was found in the mesenteric veins of the large intestines which proved to be *Schistosomum indicum*. (Identification confirmed by Dr. Leiper, of London School of Tropical Medicine). Subsequently it was found in five out of eighteen camels examined. It would seem the parasite is only of practical importance when the infestation is severe.

Peritonitis.—Last year a specific peritonitis was met with in Montgomery district. The larvæ of the *Linguatula tenuoides* are extremely common in camels and show a predilection for the group of glands draining the cæcum and colon. This year a case was again met with and there seems little doubt of their association with peritonitis in the camel. A post-mortem examination revealed the glands of the cæcum and colon intensely inflamed. They contained large numbers of larvæ and were full of cavities which had been occupied by parasites; many of these cavities opened on the outer surface of the glands. No free larvæ were found in the peritoneal cavity nor was there any enteritis nor any other channel of infection found. The functional destruction of the glands would appear to have allowed access of bacteria from the intestine to the peritoneum. Last year, hæmorrhage from the nose was observed as an occasional symptom.

Mr. Leese has been most energetic and unremitting in his labours to advance our knowledge of the diseases of the camel. Considering that his work has been carried out often in trying circumstances, the success achieved is highly commendable. I consider we are greatly indebted to him not only for the zealous manner in which he has carried on his work, but also for the progress made.

The number of veterinary assistants employed has increased by nearly a hundred, viz., from 517 to 614. With the exception of Rajputana, additions have been made in every Province. Madras shows 38 veterinary assistants now employed. In last year's report none were recorded. Over 11,000 more villages were visited, and the number of cases treated (excluding castrations) exceeded those of last year by 63,741. There were 327 veterinary dispensaries in working order during the

year under report. In Rajputana and Bengal the numbers remain the same as last year; in all other Provinces there is an increase shown.

BACTERIOLOGICAL LABORATORY.

Major F. S. H. Baldrey officiated as Imperial Bacteriologist until the 4th November, 1910, on which date Major J. D. E. Holmes assumed charge. Mr. H. E. Cross and Dr. P. Hartley held their respective charges of Assistant Bacteriologist and Physiological Chemist. The three European Laboratory Assistants held their respective appointments during the year.

Preparation of Sera.

Rinderpest anti-serum.—The number of doses of anti-rinderpest serum prepared during the year amounted to 577,969 as against 409,078 manufactured last year, roughly an increase of 169,000 doses. The issue of serum amounted to 533,799 as compared with 446,981 during the year 1909-1910.

The demand for serum increases each year and is far greater than the output. Many indents could not be complied with at all, or only in part. It is interesting to find that the use of serum is being so much appreciated in Native States. In Mysore some 27,000 animals have been injected during the past three years, and so great is the popularity of the method that at times it has been impossible to meet the demands, and this has raised the question of providing another laboratory for serum preparation.

Anthrax anti-serum.—During the past year 5,415 doses were prepared against 12,168 during the previous year. The issue amounted to 9,715 doses against 12,404 of the previous year. Its preparation was regulated according to the demand in the field. Investigations regarding the practical value of anti-anthrax serum and vaccines have been conducted during the past two years and a preliminary report will be published shortly.

Hæmorrhagic Septicæmia.—50,350 doses of Hæmorrhagic septicæmia vaccine were prepared and all issued, as against 8,320, or 42,030 doses more than in the previous year. No unfavourable reports were received with regard to the efficacy of the vaccine, and the figures show satisfactory results.

Charbon Symptomatique.—33,400 doses of single vaccine in pillule form were prepared; 19,900 doses of vaccine and 536 of serum were issued to the various Superintendents. The vaccine prepared at the laboratory appears to be very efficacious. The mortality in animals vaccinated in the Punjab amounted to '07, whereas in untreated animals, the usual death-rate is something like 88%.

Strangles.—During the past year 1,829 doses of anti-streptococcus serum and 500 doses of vaccine were prepared. The total issue of these products amounted to 1,617 doses. This serum was prepared to meet the demand from the Army Remount Department, but no definite results have been reported to this Department.

Mallein.—Twelve thousand nine hundred and forty-one (12,941) doses of mallein were prepared, against 9,515 doses during the previous year. With a balance of 2,730 doses from the previous year and 598 returned from the field as unused balance, the total issue amounted to 16,229 doses.

Tuberculin.—During the year under report 209 doses of tuberculin were prepared and 188 issued.

Specimens examined.—Two hundred and ten (210) specimens were received for examination and report during the past official year, against 84 during the previous year.

Training of Veterinary Assistants.—Seventeen Veterinary Assistants attended the course of training, eight at Muktesar and nine at Bareilly, against 36 during the past year. The decrease is due to the facilities now

afforded in the Veterinary Colleges for training students in inoculation work.

As already noted, the whole staff—superior and subordinate—have had very hard work throughout the year, indeed the pressure at times has been so great that a number of members of the staff have had to be employed from daylight to dark daily, including Sundays and Gazetted holidays. The Imperial Bacteriologist records his appreciation of the excellent work and co-operation of the whole staff, and I have much pleasure in endorsing his remarks.

Much credit is due to Majors Holmes and Baldrey, Mr. Cross and Dr. Hartley for having, under trying circumstances, accomplished so much during the year.

GOVERNMENT CATTLE FARM, HISSAR.

Lieut.-Col. J. Farmer held charge throughout the year under report. The operations at the farm have on the whole been successful.

It was handed over temporarily to the Civil Veterinary Department on the 1st April, 1899, and was transferred permanently to the Department on the 1st April, 1910. There is no denying that during the above-named period the farm in its various branches has been vastly improved, and financially it is perhaps now in a more satisfactory state than at any time during its history.

Conditions, however, exist which render it almost impossible to make the farm all that could be desired. It is most unfortunate that at the time the farm was started, those responsible failed to close all public highways passing through the acquired tract of country. The result of such an omission has made the charge of the Hissar Farm both an anxious and highly responsible one. In spite of all possible precautions, with disease at times prevailing all around, infection through the agency of diseased animals from without occurs from time to time. Owing to unremitting attention the outbreaks are few, and in recent years the farm has escaped the severe ravages committed by contagious maladies in days gone by. During the year cases of the following diseases were reported, viz., Rinderpest, Foot and mouth disease, Black quarter, Strangles, and Sheep-pox. As a result of the prompt action taken by the Superintendent, the outbreak of rinderpest was rapidly checked and only one death was reported.

If the fact that a large amount of the stock bred at Hissar is issued to Government Departments at prices very far below that obtainable from private purchasers or in the open market is taken into consideration, the farm may be said to be practically self-supporting.

Lieut.-Col. Farmer has as usual worked hard and afforded ample proof of his being particularly well suited to fill the appointment of Superintendent. Any success attained is mainly due to his zeal and untiring supervision. He records his appreciation of the good work performed by his staff, more particularly Lieut. R. Morris, farm overseer, and Mr. E. MacCutchan, the farm bailiff.

There is little doubt that the work has increased to an extent that the Superintendent is much overworked. If in the interests of the farm alone, it would seem expedient that a second officer be appointed permanently to be trained under Lieut.-Colonel Farmer, who stands alone in his knowledge and experience of the Hissar Farm. Should any circumstance arise necessitating Colonel Farmer relinquishing charge of the farm, unless there is an officer thoroughly conversant with the various duties connected with this special charge ready to immediately take up the work, I fear it would not be long before neglect of this precaution was very forcibly impressed upon us.

GENERAL.

Work continues to increase and it is questionable if the Imperial staff can accomplish any more than is now

being done. It would, however, appear in several Provinces that Superintendents have a large amount of office work to get through. It is to be feared the tendency is, to look upon such and administrative duties as matters of the first importance. Experience teaches that the amount of office work instead of diminishing year by year increases enormously, and Superintendents are being prevented (or can at least make it an excuse) from devoting themselves to the essential part of their duties, viz., field work. Unless measures be taken to curtail the office work there is every prospect, and that in the near future, of Superintendents blossoming into Deputy Directors for veterinary work. The aim and object of their appointments thereby being to a great extent frustrated. Superintendents are experts and are very few in number; their energies should be concentrated on veterinary, and not be dissipated in clerical work, to do which, many other cheaper and perhaps more efficient agencies are available. In order to perform veterinary work proper in an efficient manner, it is imperative that they be free as possible to employ their time in special work and pursue it among the agricultural classes. Superintendents who do not spend the greater portion of the year going about their respective charges, helping the people during outbreaks of cattle disease, and enquiring into all matters affecting agriculture from a veterinary standpoint, but who entrust such important duties to subordinates without thorough supervision, will not, in my opinion, be in full sympathy with the welfare of cattle owners, and must fail in the special purpose for which they are appointed. Most of the routine office work can be well done by others not possessed of their special knowledge.

Fully qualified Veterinary Surgeons for district work in India, Assam and Burma number 17.

Veterinary Assistants trained in Indian Schools and Colleges, when first put to district work, naturally are far from being qualified to perform the real work required from them. Central Colleges situated as they are in large towns cannot provide the experience necessary. The most important part of their training must come after they have left the Colleges, and it is the District Superintendents alone who can afford them this special training. It certainly cannot be done by writing from headquarters. It is rarely in Colleges that opportunity occurs of affording pupils practical instruction in that all-important work dealing with epidemics, and the same remark applies equally to the local hospitals. It can only be imparted in the villages, grazing grounds, etc., while epidemics are prevailing and as soon as possible after the outbreak has occurred. To carry out such work a Superintendent must be willing and free to leave his head-quarters at any time, and himself supervise and help in as many outbreaks as possible. When there are no epidemics Superintendents can find plenty to do in looking after the work of Assistants and instructing them how to deal with outbreaks at the onset, before their superiors can arrive, and when they must necessarily act on their own initiative."

The report is signed by G. H. Evans, Lt.-Col., Offg. Insp. Genl. C.V.D., Simla, Sept. 30, 1911.

OBITUARY.

GEORGE BARRAS, M.R.C.V.S., Aiskew, Bedale (late of Princes Risborough) Graduated, Edin: May, 1899.

Mr. Barras died on Nov. 12th, from phthisis pneumoniae. Aged 35 years.

CHARLES COLEBROOK, M.R.C.V.S., Basingstoke, Hants. Lond: May, 1861.

Death occurred on Nov. 13th, from carcinoma of stomach, at the age of 77 years.

PARLIAMENTARY.

FOOT-AND-MOUTH DISEASE. APPOINTMENT OF COMMITTEE.

In the House of Commons, on Wednesday, Nov. 15.

In answer to questions by Mr. C. BATHURST.

Mr. RUNCIMAN (Dewsbury): The Committee will consist of 12 members, who have been requested to inquire into the circumstances of the recent outbreaks of foot-and-mouth disease, and to consider whether any further measures can be adopted to prevent their recurrence. The Right Hon. Sir Ailwyn Fellowes has consented to act as Chairman of the Committee. The following are the other members who have consented to serve:—The hon. member for South Wilts, Mr. Richardson Carr, of Tring, Hertfordshire, Major E. Marten Dunne, of Gatley Park, Kingsland, Herefordshire, the hon. member for the St. Patrick's Division of Dublin, the hon. member for Barkston Ash, the hon. member for Carmarthenshire West, Mr. E. E. Morrison, of Bonnytown, Stravithie, Fifeshire, Mr. E. P. Nunneley, of Wellingborough, the hon. member of the Newmarket Division of Cambridgeshire, and the hon. member for North Bucks. I am endeavouring also to secure the assistance of a member of the Central Chamber of Agriculture. The Veterinary and Administrative officers of the Board will give the Committee every assistance. I desire, however, to arrange for the prosecution at the same time of an expert scientific inquiry into the more obscure characteristics of the disease, an inquiry which this Committee cannot be expected themselves to undertake. I am informed that the Indian Empire, where the disease is more prevalent than is, happily, the case in this country, affords a wide field for an investigation of this specialised character. I am in communication with the India Office on the subject, and I hope that it may be found possible to arrange with the Indian Government for the constitution of a small Scientific Commission consisting of two experts from this country, with whom may be associated, if the Indian Government approve, an equal number of experts appointed by them, to visit India and to study in that country the characteristics of the disease, its etiology, the means by which it is contracted and spread, and practicable means of prevention. I am aware of the difficulties which may beset the further inquiry which I propose to set on foot; but I believe that the great interests of this country in valuable live stock, and of India also, justify a more thorough scientific investigation than has been made up to the present. I am convinced that by these means we shall most effectively mitigate the loss and inconvenience suffered not only by agriculturists, but also by those whose business transactions are hampered by the restrictions which these outbreaks make it necessary to impose upon the free movement of agricultural produce.

Personal.

Mr. J. H. CARTER, F.R.C.V.S., was unanimously appointed Chairman of the Highways and Sewage Committee, at the meeting of Corporation Committees, Town Hall, Burnley, on Monday last.

The naval medical service of France still uses leeches, and in connection with this fact M. Boyer tells an amusing story. A jar of leeches was bought in 1907. Each leech when taken out has, it appears, to be signed for by the doctor. It came to pass that five leeches died a natural death without the medical certificate. It took two years of enquiry, a vast amount of correspondence, references to commissions, and reports to Ministers, to get the matter finally settled, and the death of the five leeches officially authenticated.

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VETERINARIANS' REPORTS.

Pneumonia.

E. R. VOORHEES states in the *American Veterinary Review* that Nuclein has produced results which at times "seemed marvellous," and instances an apparently hopeless case of double pneumonia which recovered rapidly after the injection of Nuclein. Also see article by E. M. PERRY in *The Veterinary News* of Nov. 19, 1910, and by D. HANNAY in *The Veterinary Record*, Mar. 11, p. 589.

Fistula, Poll Evil, Septicæmia.

A report appears in *The Veterinary News* of Feb. 4, 1911 (p. 67), of the prompt improvement brought about by Nuclein in cases of fistula and poll evil which had failed to respond to other methods of treatment. A case of profound toxæmia in a dog which was greatly benefited by Nuclein is reported in *The Veterinary News* of Feb. 16, 1907 (p. 109).

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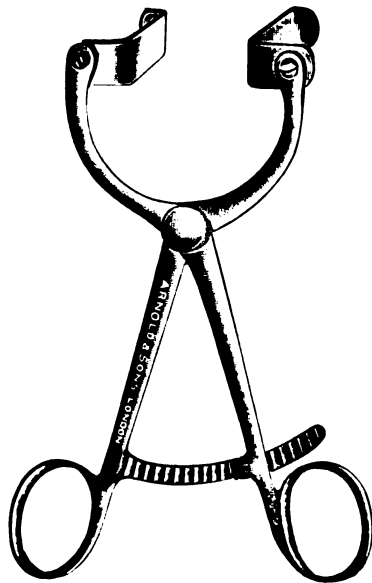
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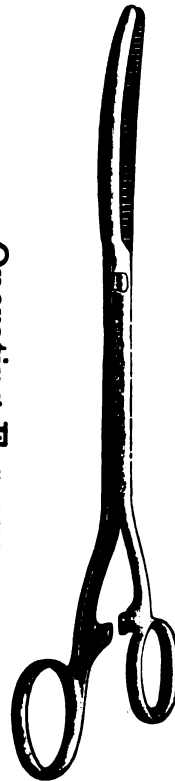


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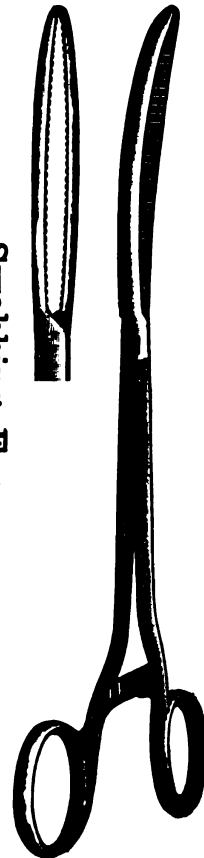


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A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1220.

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VOL. XXIV.

THE COLLEGE CREST APPEAL FUND.

We understand that the appeal case regarding the use of the College crest by members, L.C.C. v. Kirk, will come on for hearing within a few days' time. All members who intend subscribing to the defence fund which is being raised, and have not yet done so, should therefore at once forward their subscriptions to Prof. Woodruff at the R.V.C., Camden Town. Considering how large a number of our members habitually use the College crest, the amount already subscribed towards the effort to retain it is certainly very meagre indeed.

THE C.V.D. ANNUAL REPORT—A CORRECTION.

By an unfortunate printer's error, the abstract which commenced on page 317 of last week's issue was headed "Annual Report, Army Veterinary Department, India, 1901-11." It should of course have read "Annual Report, Civil Veterinary Department, 1910-11." We regret the mistake.

THE C.V.D. CENTRAL PROVINCES, INDIA.

The Annual Report, 1910-11, illustrates, even more forcibly than such documents usually do, the overworked and undermanned condition of this Department, which is nevertheless rendering such invaluable service to India.

During the year the work has extended very rapidly—the number of cases treated at dispensaries increased by 24%, and the number treated on tour by fully 50%. But during the same period the staff of veterinary assistants has only risen from 82 to 86; while the Chief Superintendent, Major Baldrey, was absent for seven months on deputation duty at Muktesar. During his absence the Assistant Superintendent, Mr. Ware, took entire charge, this practically meaning that for more than half the year the two offices of Chief and Assistant Superintendent had to be discharged by one man. Major Baldrey himself in his report, the Director of Agriculture in a covering letter, and a Governmental resolution upon the report, alike concur in emphasising the disadvantages arising from this, and it seems probable that a repetition of it may be avoided.

The incidence of animal disease in the Central Provinces varies a little from that in other parts of India. Only four outbreaks of surra were reported in the year, and none at all of glanders, epizootic lymphangitis, and epizootic abortion. By far the most fatal diseases are rinderpest and hæmorrhagic septicæmia. The former is now abating; but the latter has appeared in every district, and there is no doubt that in former years it was often mistaken for anthrax or black-leg. Anthrax and black-leg are not now so common as they once were, or were thought to be, but foot-and-mouth disease is still very prevalent. Major Baldrey strongly believes hæmorrhagic septicæmia to be insect-borne; but so far he is unable to directly prove this, and remarks that the pressure of routine and diagnostic work renders research almost impossible to him. Considering this officer's

exceptional record of research work at Muktesar and elsewhere, it is a thousand pities that he should be practically debarred from it in the Central Provinces.

Throughout India, the need of the C.V.D. is the same. More and better trained assistants are wanted for the field, more superintendents are wanted to cope with the ever-expanding preventive work, and a few selected men of the latter grade should be left free to devote themselves to research. Happily we have now abundant evidence of an increasing Governmental recognition of these needs, which the covering letter and resolution we have mentioned agree in admitting; and we are glad to see that both these official documents make very special commendatory mention of the good work which is being done by Major Baldrey.

DONATIONS TO R.C.V.S.

"The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following second year's donation to the College funds from

Mr. G. Garnett, Hove, Sussex, £1 1 0

Twelve months ago Mr. G. Garnett anticipated the action of the V.S. Act Amendment Bill—still, unhappily, on the knees of the gods—by initiating an annual donation of the amount of the proposed Annual Fee. His example was followed by other members, their action was acknowledged by the Council R.C.V.S., and the result was a net gain of £90 to the College funds. Since then the steady depletion of the College funds has continued, and there is no prospect of more than a slight recovery in the value of Government securities in which the College funds are invested. Well-wishers of the R.C.V.S. may therefore look to a continuance and an increase of the assistance voluntarily rendered last year.

The outlook for the general body of the profession, in event of the V.S. Amendment Act failing to become law before the limit of our reserves is reached—which may well arrive from several causes outside the opposition offered by a few members of the "anti" persuasion—is not a cheerful one. The power of granting Diplomas might be absorbed by several wealthy Universities who are always ready to add to their powers—instead of being in the hands of members elected by members, as at present. It were well that more of our men should examine and recognise the reasons in favour of upholding their College. Never was the old motto of the sword hilt more appropriate—"Who gives quickly gives twice"—and in this case the sword blade is money.

NECROBACILLOSIS IN THE DOG.

By HENRY GRAY, M.R.C.V.S.

Synonyms.—Fistulous dermatitis. French: *Dermatite phlegmoneuse et fistuleuse*.

History.—This disease has frequently been observed, but rarely described. Attention has been called to it by Cadiot and Almy, Cadiot and Breton, and the writer. But the credit of pointing out its true cause and nature is due to Cuillé, who has given a very good description of it. Livesey has also recently referred to it, or, at least, to one form of it.

Animals affected.—It is mostly seen in the larger lymphatic breeds, and in sporting dogs, and occasionally in other breeds and in the cat. It is well-known in the other domestic animals and in the rabbit and hare, in which latter animals it often occurs as an enzoötic or as an epizootic.

Seats of election.—It seizes by preference the tail, the circum-anal skin and tissues, the feet, hock, the outer surface of the regions of the stifle, elbow, and fore-arm, the sheath, nose, and lips. In the cat, the feet and tail. In the monkey, it generally affects the tail.

Etiology.—The infection gains entrance to the tissues by inoculation, wounds or abrasions, which are frequently caused by sharp-pointed or cutting bodies and occasionally by the *demodex folliculorum*. In the region of the feet it gains an entrance through the wounds set up by thorns, barley grass, other plants, and injuries. In the hare and rabbit it may arise from ingestion of the bacillus.

The bacillus *necrophora vel necroseos* or, bacillus of Bang, or of Löffler, is generally accompanied by other microbic infections, such as the streptococcus and staphylococcus. It may complicate distemper and lesions in the mouth and cheeks.

Symptoms.—It usually commences by swelling of the skin which becomes purplish and hairless. After a short period abscesses varying in size from a small pea to a walnut, or even to that of a fowl's egg, form in the subcutaneous connective tissue, burst, and discharge a dirty, bloody purulent fluid. The resulting wounds have no tendency to heal, but leave deep fistulous channels which continually discharge a thick bloody purulent material mixed with shreds of necrotic tissue. The skin remains thick and hairless. The fistulous openings often seem as if punched out, and give the skin the appearance of a strainer or collander. The disease rarely extends, but usually remains stationary without showing any inclination to heal. However, the writer* has seen many cases that have become generalised; and Cadiot and Almy observed a case commencing at the sheath, extending to the groin and the whole of the right thigh, and leading to a fatal peritonitis. In generalised cases, the skin has generally a lacerated appearance after the abscesses have burst and discharged their contents.

*The Treatment of Canine Distemper. *Hoare's Veterinary Therapeutics*, pp. 675 and 697, 1906.

When the disease commences between the digits lameness is at first observed and often the affected limb is carried. The space between the toes becomes swollen, red and then purplish. Pain is caused by manipulation and the skin shows some oozing. The swelling is produced by several abscesses which burst and discharge a bloody purulent fluid. The resulting wounds do not heal up, but take on a fistulous character and discharge a bloody serous material. Often when one thinks the wound is almost healed up the region above the digits extending to that of the hock or carpus, or even above these regions commence to swell, become hot and painful and eventually several abscesses form and burst and the resulting cavities communicate with one another. Often one is able to pass a fine probe several inches up the limb from the inferior or digital wound. Occasionally the chain of abscesses extends up the limb to the groin or axilla, burst and give rise to several wounds discharging bloody pus. The fistulae are kept up by the necrotic lesions of the aponeuroses, tendons or bones.

Two or more or all the limbs, to which the disease in this form is usually confined, may be affected at the same time. Generally only one limb is attacked.

The disease when confined to certain parts does not as a rule interfere much with the general condition of the animal. In generalised cases, however, it may produce emaciation and even death from exhaustion. When it affects two or more limbs at the same time, the animal usually persists in assuming the recumbent position.

The disease is generally very slow in disappearing. In the case of the limbs, beyond opening the fistulous openings and applying iodine dressings, Bier's treatment has given the writer good results. Where this latter method cannot be adopted, nitrate of silver, sulphate of copper, biniodide of mercury, peroxide of hydrogen, or even creolin in a pure state has been followed by successful results. Arsenic should be given internally.

The tail is the most troublesome organ to treat, as nearly every practitioner too well knows. The same may be said of tissues round the anus.

The generalised cases are not always the most troublesome ones to treat. The majority of cases affecting the limb in the cat succumb.

The writer trusts that those practitioners interested in this subject will record their experiences. It is with this object in view that this article is published.

TETANUS IN A PONY—RECOVERY.

About the end of last August a friend of mine who is a member of the College but not in practice, called on me asking if I had any of Hewlett's Tetanin, as his pony was showing signs of tetanus; it had fallen and cut its knees three weeks before. Not having any serum by me that I could guarantee fresh, I wired to London for some; this was on a Saturday about noon, so of course I did not get it until Monday night. In the meantime (next day) at my friend's request I drove over, and found the

symptoms very pronounced, but the patient could just manage to eat a very sloppy mash. I advised Acid hydrocyanic oil in drinking water, also 5i. of same in a quart of water as enema three or four times daily. I sent the Tetanin over on the following Tuesday, and heard no more until October 15th when to my surprise I received a letter saying "the old pony is quite well, and at work pumping water—I did not use the serum after all, but kept on with original treatment."

Now for the most interesting feature of this case, if the pony should be alive next spring, he will be 31 years old.

J. E. PORRETT.

Loddon, Norfolk.

ACORN POISONING.

By HENRY TAYLOR, F.R.C.V.S., Haywards Heath.

In the County of Sussex the oak tree has been described as the "Sussex weed," because, I presume, it grows in such profusion. This year there has been an extraordinary crop of acorns, and in consequence a high percentage of cases known as acorn poisoning. There are one or two features in connection with the condition which offer some difficulty in the matter of explanation.

At the outset the symptoms resemble indigestion and constipation, then ensues a diarrhoea with very fetid watery motions, coupled with polyuria, the urine being almost as clear as water. This leads to a gradual wasting away, the animal develops sores round the nostrils and sometimes round the mouth, becomes weaker and weaker, and finally succumbs.

What is the nature of the toxin or deleterious substances present in the acorn?

During some seasons the acorns are almost as plentiful, yet the cases of acorn poisoning are uncommon. Perhaps we may explain this by the assumption that the toxic material has, owing to meteorological conditions of the particular season, not been formed in as great an amount. Sometimes clots of blood are passed, which are such a size that there must in all probability be an actual erosion of the mucous membrane, and yet a gallon of acorns may be fed daily to a two-year-old bullock, if ground and mixed with other food, not only with no harm but with benefit. Perhaps the toxic substances may so lower the vitality of certain portions of the mucous membrane that the bacterial flora naturally present in the bowel attack it and make a breach in it.

Frequently the diarrhoea of this acorn poisoning does not come on for five or six days after the animal has been eating acorns, during which interval it may have been kept in, and consequently not have eaten any more. Their rate of digestion is apparently slow therefore. The colour of the faeces is at first black, almost as black as ink. I have heard it described as "black scour," but later on, when the animal is getting weaker and weaker, the diarrhoea is of the ordinary brown colour; yet, as the animal has been kept from eating any more

acorns one would think the cause had been removed.

Why does the diarrhoea persist? I think the partial explanation lies in the fact that the mucous membrane of the small intestines has become affected with a chronic catarrhal inflammation.

The fourth stomach, on two occasions, has appeared almost normal, and in one instance I examined the contents under the microscope for strongyles, in case the diarrhoea might be caused by parasitic gastritis, but the result was negative. Even when the post-mortem examination is made at once, one finds that portions of the mucous membrane of the first three stomachs are easily detached, but that the underlying subcutaneous tissue is not much reddened, as is seen in some conditions due to other causes. The abomasum may or may not be full of dry food. Frequently all traces of acorns have disappeared.

With regard to treatment, in the later stages, most medicines seem to be ineffectual. Iron in the form of Liq. ferri perchlor. has been recommended, but it does not appear to surpass any ordinary astringent. I have also tried many intestinal disinfectants, e.g. chinisol (five grain doses), sodii hypsulph., tannoform, creosote, ol. menth. piperitæ, and I am not sure that creosote and chinisol have not had some beneficial effect.

As soon as the farmers find that an animal has partaken of acorns, in addition to giving them a purgative, they allow the animal large quantities of hay, in the belief that hay induces rumination, and rumination assists in the digestion and elimination of the acorns.

This season I have had thirteen cases which either proved fatal or which would apparently end fatally. This is in addition to numbers which were running along with the cases which made up the above mentioned thirteen, and which were simply pointed out to me as being slightly affected, and which the owners themselves had treated.

ABSTRACTS FROM FOREIGN JOURNALS

INVAGINATION OF THE DUODENUM INTO THE STOMACH IN THE HORSE.

Grebe, of Bonn, records the following peculiar case to which he was called. The history was that the horse, on the previous evening, had shown a slight attack of colic, which had quickly passed off; and the animal had been apparently normal when left for the night. Early the next morning, however, he was found to be suffering from violent colic.

When examined by Grebe, the horse was very restless, and the whole body was covered with cold sweat. The animal pawed the ground violently and walked about continuously, but avoided lying down. Sometimes he would commence to lie down and almost do so, and then hastily rise again.

The conjunctivæ were brick red. The pulse was small, thread-like, faintly perceptible, and counted 93 per minute. The rectal temperature was 103.4°F.

The flanks were drawn up, and there was no accumulation of gas in the divisions of the intestine. Peristalsis was distinctly audible at both sides of the body, and was only a little suppressed. Rectal exploration gave completely negative results.

The horse died five hours later. The owner informed Grebe that tympany set in an hour before death. The post-mortem examination, made six hours after death, resulted as follows:—

The carcase was slightly tympanitic. The abdominal cavity held no abnormal contents, the intestinal divisions being moderately filled with alimentary material of normal colour and consistence. The vessels of the peritoneum were injected. The peritoneum itself was smooth, glistening, and transparent everywhere except in the neighbourhood of the pylorus, where it was dull, opaque, and covered with a fine and easily detachable exudate. The stomach was exceedingly tympanitic; and, when it was opened, it was found to contain a sausage-shaped invagination of the duodenum about 18 inches long.

Evidently this invagination had arisen as a result of reversed peristaltic action. Grebe, however, could not find any pathological lesion in the intestine to which the reversal of peristalsis could be attributed.—(*Berl. Tier. Woch.*)

W. R. C.

[I am not aware that this lesion has ever before been recorded in the horse. The author does not claim it as unique, but it must at least be extremely rare.—TRANSL.]

CENTRAL VETERINARY SOCIETY.

An ordinary general meeting was held at the Holborn Restaurant, on Thursday, Nov. 2nd, Mr. R. J. Foreman, President, in the chair.

The minutes of the previous meeting were taken as read and confirmed.

ELECTIONS AND NOMINATIONS.

Messrs. GEO. GORDON, J. FRANK MACDONALD, and J. D. WOOD were unanimously elected Fellows of the Society.

Messrs. J. W. SUGDEN, Southminster; A. G. GOSLING, and C. A. M. CUNNINGHAM, 128 Goswell Road, E.C.; T. A. B. COCKSEGE, Emsworth, Hants., were nominated Fellows of the Society, and will come up for election at the next meeting. The proceedings then closed.

THE ANNUAL DINNER.

Immediately following upon the meeting of the Society the annual dinner was held, to which 83 sat down, Mr. R. J. Foreman presiding. For the first time in the history of the Society ladies were present at the dinner, and the company was therefore a larger one than usual.

Following an excellent dinner, the President proposed the usual loyal toasts, which were accorded musical honours.

Mr. W. PACKMAN, in proposing the toast of "Success and prosperity to the Central Veterinary Society," said he was told the Society had about 150 members. Personally he thought the number ought to be nearer 350, as he could not understand any members of the profession keeping entirely outside veterinary politics. He

could only wonder why those gentlemen did not come in and mix with the other members of the Society as they ought to do. (Hear, hear). There was consolation, however, in the fact that the same state of affairs existed in the medical profession until Mr. Lloyd George brought in his Insurance Bill, and that closed their ranks at once. (Laughter). He wished an Insurance Bill or some other bill would close the ranks of veterinary surgeons a little bit more. (Laughter). The Society had been blessed in the past with very excellent Presidents, and the newly-elected President was a very excellent choice. (Hear, hear). He was a very great friend of his own, who once resided in the North of England, and he assured the Fellows that the President there made friends with everyone with whom he came in contact. It was evident that the same friendship had been shown to him in the South, by the Fellows of the Society electing him to the Presidential chair. (Cheers). He wished the President every prosperity and a happy year of office. The Society was also blessed with a very energetic Secretary. (Cheers). Without a good Secretary things always fell very flat, and he therefore hoped the Society would long be able to retain Mr. MacCormack's services. (Cheers). He also desired to be allowed sincerely to congratulate the Society upon the innovation of inviting ladies to be present at the annual gathering. (Cheers). He hoped other Societies would follow such an excellent example. The ladies in the past had only been allowed to see the menu when it was shown them the same night or the following morning; but they now graced the table, and were allowed to see the card in its proper place. (Cheers).

The toast was drunk with enthusiasm, "For he's a jolly good fellow" being heartily sung.

The PRESIDENT, who was very cordially received on rising to respond, thanked Mr. Packman and the ladies and gentlemen for the hearty way in which the toast had been given. He was so embarrassed that if he had not been representing the Society he would have felt inclined to make a bolt for it. (Laughter). He was always under the impression that Mr. Packman had kissed the Blarney Stone in his youth, but he knew now that that gentlemen carried a piece on his watch chain and saluted it occasionally. (Laughter). Perhaps the Society, as a body, was deserving of all the praise that Mr. Packman had accorded to it, but he was sure the honorary officials, particularly the Secretary and the Treasurer, did. They were like fathers in looking after its interests, and the Fellows were like good children in their hands until they tried to get papers and money from them; and then the Fellows were like children at medicine time. (Laughter). Why, he really could not say, because the Society was, he believed, the largest and richest Society in the veterinary profession, and contained within its ranks many of the leading lights of the profession. He really thought the reports of the meetings out to be printed, published and distributed at a fee to non-members of the Society as a kind of supplementary post-graduate course. (Laughter). The Society was in a very flourishing condition, and its popularity was undoubted, judging from the constant influx of new members. A previous Past-president had stated that the Society had existed since 5 B.C. (Laughter), and as that statement had not been contradicted he accepted it as a fact, because people were only too ready to contradict untrue statements. (Laughter). Again, 10 Red Lion Square, where the meetings were held, had been improved by the installation of a telephone, electric light, and a musical fan. (Laughter). Then the Holborn Restaurant was still in the same old spot for the annual dinner. (Laughter). Most people would be quite satisfied with the little list of attractions he had given, but the Fellows of the Society were not; they wanted the presence of the ladies at their annual social gathering

(Cheers), and he thought they were quite justified by the result. It only remained for the ladies to convert the woman-haters in the ranks of the Society, of whom there were a number. (Cries of "Shame.") He thought if they had been present that evening they would have been converted. He had always been under the impression that Presidents were elected from married men, as being very experienced individuals, or from gentlemen of imposing presence. (Laughter). After he was elected President it struck him that neither of those qualifications applied to him; that he must have been elected on account of his age, and that therefore he must be very much older than he thought he looked. (Laughter). Anyhow, he had been selected for the honour, and but for the little sad home truth about the age he was happy indeed in occupying the chair. He thanked all present for the very kind thoughts they had for the Society, and hoped they would be spurred to greater efforts in the future for it and the profession at large. (Cheers).

Mr. J. OLLIS, Chief Officer, Public Control Department, L.C.C., in proposing the toast of "The Royal College of Veterinary Surgeons," said he could not help thinking that in calling upon a layman to propose the toast the President ought to have asked someone who had the Abrahamic quality of being rich in flocks and herds—(laughter)—instead of which he, as representing a local authority enforcing the administration of the Diseases of Animals Act, had been selected for the honour. He could say on that account that he thought all such local authorities were under a great debt of obligation to the College for the ability and character of the officers the College presented to it. There were in London several veterinary inspectors, and it was a requirement of the Diseases of Animals Act that they should be members of the College. Anyone with experience of animal diseases must agree that that was a very desirable and necessary qualification. (Hear, hear.) Some years ago the London County Council in its Inspectorate did not have officers entirely in its own service, but a few years ago it made a change, and required that its inspectors should be officers who were not associated with private practice, but who devoted the whole of their time to the interests of the London County Council. At least two of the officers who came over to the Council at that time were gentlemen who, in entering public service, gave up a very much richer private reward, and he thought in estimating the value of the officers that came from the College that quality of self sacrifice was a very great asset. (Hear, hear.) The services rendered by those gentlemen to London had been very considerable indeed. One of the most serious diseases dealt with in London was a disease which affected the horse, and in a very long number of years a large number of horses had been destroyed by the local authority. The number of cases where the inspectors, he did not say made a mistake, but where on post-mortem they were unable to sustain their diagnosis had been considerably less than twenty—(cheers)—which was a very high testimonial to the skill and ability with which the members of the College were endowed before they entered the service of the L.C.C. (Hear, hear.) It was well known that a fierce light beat upon a crown, and there was sufficient talent amongst the veterinary surgeons in practice in London to pass under a very close observation the work of the L.C.C. inspectors. They were acting on behalf of their own clients, and it was pretty evident that if there was the slightest possibility of any mistake being made by the Council's officers they, in the interests of their clients, would be the first to detect it. That the inspectors have successfully survived this scrutiny was an additional tribute to the ability of the members of the College who served the L.C.C. (Hear, hear.) In connection with the work under the Glanders Order there was a special matter he desired to

mention because the present was essentially a professional gathering. Some months ago, when the London General Omnibus Company determined to put its horses under the hammer, the Council felt a very serious problem would arise if all those horses passed out into private stables and there was any possibility of taint of glanders existing amongst them, because it would have seriously retarded the efforts of the Council in putting an end to the disease. Mr. Hunting—(cheers)—accordingly saw Mr. Duff, the Managing Director of the L.G.O.C., an exceedingly keen and able man of business, and suggested that the whole of the horses should be malleined before they were sent to the auctioneer. After consultation with his own professional advisers, Mr. Duff agreed to submit the whole of the Company's horses to the mallein test, and he believed that out of about 7,000 that had been malleined up to the present time not more than 10 or 15 had had to be condemned. (Cheers.) That was another tribute to the ability of the gentlemen who had passed through the College, and who had served one of the largest omnibus undertakings in the whole world.

With regard to the future, there was no doubt that although very considerable advance had been made in the suppression of animal disease, there was still room for the exercise of the abilities of the members of the veterinary profession. One matter of very great alarm to the veterinary world was the recurrence of foot-and-mouth disease in several parts of the country. There were many directions in which the members of the College could serve the public, and he sincerely hoped the public would make a larger employment of their services. (Hear, hear.) Many years ago Mr. Coleman, who was one of the earliest veterinarians to preside over the destinies of the College, spoke very strongly of the necessity for ventilation, cleansing, and matters of that kind in connection with the housing of animal life, and he thought the owners of stock would be well advised to call upon the profession for a larger service in such matters than they rendered at the present time. He hoped that the veterinary profession would be properly recognised in the future, and such recognition would only be for the advantage of animal life. He had much pleasure in proposing the toast of "The Royal College of Veterinary Surgeons," and to associate with it the name of Sir John McFadyean, who was endeared to all because of his abiding interest in everything that was for the good of the profession, and because of his great scientific attainments, of which the veterinary profession was so proud. (Cheers.)

The toast having been duly honoured,

Sir JOHN MCFADYEAN, in responding to the toast in the absence of his old friend and former pupil, Prof. Mettam, the President of the Royal College, said he wished he could begin his reply by saying that everything was well with the Royal College of Veterinary Surgeons. Truth, however, compelled him to admit that in some respects the condition of the Royal College was not as good as its earnest well-wishers might desire. He had to confess that the extensive introduction of motor traction, the advent of the motor omnibus and the motor cab, and electric traction had made rather serious inroads on the income of some members of the profession. Perhaps nowhere had such great inroads been made as in the incomes of those who happened to practise in London. (Hear, hear.) He wished he could say that the substitution of motor traction for the horse was at an end, but he was afraid that that, from the veterinary point of view, would be too optimistic a forecast. He expected that in the future fewer horses would probably be seen in London and more motor cabs. He was pleased to observe in coming to the dinner that, owing to the taxi-cab strike, the hansom horse was getting a little of his own back—(laughter)—but he was afraid, as Carlyle said about his wife's toothache, that

would not be permanent. (Laughter.) In spite of those somewhat depressing facts he took a more optimistic view of the future than some people did. He did not believe the day was at hand when it would be impossible for a veterinary surgeon to make a decent livelihood in veterinary practice—(hear, hear)—and he did not share the view that before very long there would be no veterinary surgeons except those who were engaged in the service of the Board of Agriculture or of the London County Council. If one believed the gloomy prognostications that were sometimes heard, at no very distant date there would not be a horse left in the country, except possibly in a cage at the Zoo, and no equine thing would be left to the care of the Royal College of Veterinary Surgeons except the skeleton of Hermit. (Laughter.) He supposed that nothing was more calculated to destroy the interest attaching to an after dinner speech than the introduction of statistics into it, but he had looked up some figures relating to the animal population of the country, and found that notwithstanding the displacement of horses by motor cars, motor omnibuses, and electric trams, there was still a large amount of raw material from which veterinary surgeons might draw fees. According to the information supplied by the Board of Agriculture, there were in the United Kingdom in 1910 two million horses used for agricultural purposes, not including those that drew vehicles in London and other large towns. In addition to that, there were no fewer than 11½ million cattle, 31 million sheep, and 3½ million swine. When one considered that there was not the least likelihood of that immense animal population seriously diminishing in the near future, he thought those present were entitled to take a hopeful view of the veterinary profession in the future. (Hear, hear.) His own opinion was that the future of the profession in this country, and the future of the R.C.V.S., was quite likely to be better than it had been in the past. Agriculture as well as veterinary science was supposed to be in a bad way—it always was in a bad way more or less. (Laughter.) It had occurred to him that if it got worse perhaps some Chancellor of the Exchequer might be induced to introduce a Bill to take over the veterinary treatment of farm animals. (Laughter.) With regard to the figures he had mentioned, if one divided the number of farm animals by the number of veterinary surgeons in practice at the present time in this country, each veterinary surgeon would have the care of 16,000 animals, and he was in the hopes that the profession would be allowed 6s. a head for them. (Laughter and Cheers.) In conclusion he thanked those present very heartily for the way in which they had received the toast. They could hardly have received it otherwise, because the majority of them were members of the Royal College. Speaking not only for himself but for all members of the R.C.V.S., he thought their thanks were very specially due to Mr. Ollis for the more than sympathetic way in which he had proposed the toast. (Hear, hear.) There was one part of that gentleman's speech, however, which he thought was slightly out of place, namely, the part in which he in a measure excused himself for having been called upon to propose the toast. If the toast was not to be proposed by a member of the profession there were very few people better qualified than Mr. Ollis to undertake it. (Hear, hear.) It was probably true, as he had stated, that he was not rich in flocks and herds, but he certainly possessed other qualifications which made it very agreeable that he should propose the toast. He doubted whether there was any layman who knew more about one important disease than Mr. Ollis did, namely, glanders. But the members of the profession had one very serious complaint to make against Mr. Ollis. Mr. Ollis had asked them to take credit to themselves for the great service done in the public interests in the help

they had rendered in exterminating various serious animal plagues. Foot-and-mouth disease had been exterminated, although it was true it came back occasionally. Pleuro-pneumonia, which was at one time a perpetual feast to many members of the veterinary profession had been exterminated, and Mr. Ollis had referred to the fact that glanders was being exterminated. His complaint against Mr. Ollis was that he had conspired with an esteemed member of the Society, Mr. Hunting, in concocting measures to bring about the extermination of glanders—(laughter)—and sorrowfully it had to be admitted that their efforts were likely to be crowned with success. (Laughter and Cheers.) Taking that with the inroads that electric traction had made on the incomes of veterinary surgeons it was calculated to make them feel more or less depressed. Before he sat down, therefore, he would like to ask Mr. Ollis to use his influence in not pushing the thing too far—(laughter)—veterinary surgeons could do with glanders in London for a little while yet—(laughter)—and if, as seemed likely, glanders eventually disappeared, they still had 16,000 animals each to fall back upon. (Laughter and Cheers.)

Mr. J. WILLETT, in proposing "The Health of the Past-President, Mr. W. S. Mulvey," said the toast was a very simple and pleasant one, because it was easy to eulogise such a thoroughly good fellow. When he was elected to the Chair twelve months ago the members expected that he would uphold the traditions of the office, and he was sure all present would agree with him that they had no reason to be disappointed. (Cheers.) In previous years the toast had been put down on the list as "The Late President," which was a very dismal way of describing a man who had just done his duty in the Chair. (Laughter.) The last thing the Fellows wished Mr. Mulvey to think was that he was placed on the shelf and of no further use; and he therefore asked them to drink the future health and happiness of Mr. Mulvey and his better half. (Cheers.)

Mr. W. S. MULVEY, in responding, thanked the Fellows for the kindly way in which they had received the toast, and for their great forbearance with him during the past year. His year of office had been an extremely pleasant one to him, and now they had expressed their satisfaction the memory of it would be still more pleasant to him. (Cheers.)

Mr. W. HUNTING, in proposing the toast of the evening, "The Ladies," said the present was the first time the Society had invited ladies to be present at the annual banquet, and he thought everyone present would say that the new departure had been a very great success. (Hear, hear.) He had moved round the room two or three times, not exactly eavesdropping, but to talk to various friends, and nearly all of them had given him information for the constitution of a speech. From one quarter he declined to accept any of the suggestions made, because they were coffee-room tales. (Laughter.) It was hardly necessary for him to point out to those degenerates that he had never been present at a banquet which was so light and gay, and at which there was a higher tone and a more graceful appearance than the present one. When the ladies were not present the ordinary conversation was what was colloquially called "shop" but on the present occasion he had missed all that sort of thing, and the conversation had been distinctly of a higher type. Before coming to the dinner he had asked himself why an old decrepit man like himself had been selected to propose a toast which was usually given to a young man, who distinguished himself by flippancy and was generally guided in his idea of the sex in general by his last melancholy experience. (laughter) Personally he suggested that such a man was not a reliable guide. When a man arrived at his (Mr. Hunting's) age he had generally obtained a pretty tolerable experi-

ence of the sex in various relations—mothers, sisters, wives, daughters, and sometimes mothers-in-law (laughter). He had an experience far in excess of that of the younger man, and as the Secretary was at all times an enthusiast, and very often a humourist, he fancied that was the reason he had been chosen to propose the toast. (Hear, hear.) There had been a great change in the relationship of the sexes in the last few years. Without going into the political question, he wished to point out that the days in which a woman was supposed to have her proper sphere either in the kitchen or in the nursery had gone by. Men now wanted a companion, — somebody who was not only privileged to make half their troubles, but to enjoy all their joys, and to join in a conversation upon any subject without flippancy (cheers). It used to be said that women could not take a position of equality with man because she was neither physically nor mentally his equal. Personally he rather disputed that contention, because in many cases the woman was physically equal to man. From the mental point of view, he remembered a little anecdote which showed that women were not deficient in that respect. A young man, who thought he would take a rise out of a speaker at a Suffragette meeting, interrupted with the question "Don't you wish you were a man?" and instantly came the retort. "Don't you wish you were?" (Laughter). In another case Mr. John Burns was stopped by a lady as he was going to a political meeting and asked, "When are you going to give us the vote?" "When you can behave yourself" the Member replied. "Was it your good behaviour got you into Parliament?" felicitously replied the Suffragette. (Laughter).

Mr. J. W. McINTOSH, in responding on behalf of the ladies, said he could not speak with anything like the same degree of experience as the proposer of the toast, whose admiration for the ladies everyone present knew to be of a very high order. (Cheers). He thought all who had heard Mr. Hunting would agree that advancing years had not lessened in the slightest degree his admiration for their beauty and his appreciation of their worth and graces. On the contrary:

"Time but the impression stronger makes,
As streams their channels deeper wear."

Of woman's worth poets had sung in sweetest strain, but Scotland's immortal bard, Robbie Burns, stood pre-eminent as the champion of the ladies. His love songs, unrivalled for purity of diction, for pathos and true poetic feeling, struck a responsive chord on the glowing anvil of the human heart; and it was in that spirit he wrote the lines:

"Her 'prentice han' she tried on man
And then she made the lasses O."

He yielded to no man, not even Mr. Hunting, in a genuine appreciation of the beauty, grace, and virtue of the ladies, and he was very proud to have the opportunity of thanking the Fellows on their behalf for the pleasant evening they had been good enough to afford them. They were delighted to be present: their delight could be seen shining from their peerless eyes. (Cheers). They were enjoying themselves thoroughly, enjoyment could be seen reflected in the blushes on their cheeks (Cheers), and the ladies hoped they would be asked again. Personally he saw no reason why the annual dinner should not be held twice yearly (Laughter), in order to have the ladies present. (Cheers). The only blot in the evening's entertainment was that there were too few ladies and too many bachelors present: he hoped the position would be reversed before they met again. (Hear, hear). On behalf of the ladies, he thanked the Fellows very cordially for the enthusiastic way in which the toast had been received, and he had been asked to convey to Mr. Hunting, in homed phrases, a special vote of thanks for the gracious way in which he had proposed the toast. (Cheers).

Prof. G. H. WOOLDRIDGE, in proposing the toast of "The Visitors," said there were two sauces above all others that added relish to a good dinner, namely, the ladies and visitors. When he was first asked to propose the toast he felt rather in a quandary, because he did not understand at the time whether the ladies were to be regarded as visitors or not, but he had been saved any qualms in that respect by the fact that they had had a toast to themselves. But, apart from that, he was quite convinced the ladies were not to be regarded as visitors, because he had been talking to a number of them that evening and found they already considered themselves members of the Society. (Laughter and cheers). While those present did not know all the visitors individually, they were very pleased indeed to have them present at the banquet. One or two of them had already spoken, and it was most gratifying to know the interest they took in the profession. He wished particularly to mention the brother of the President, who had come all the way from the north country to support the President at the dinner. He also wished to couple with the toast the name of Mr. Grimes, who was a member of the Thames Conservancy, a member of a considerable number of local bodies, and a Justice of the Peace; he was also a frequent visitor and one whom they were always most pleased to welcome.

Dr. FOREMAN and Mr. GRIMES briefly responded on behalf of the visitors, and the singing of "Auld Lang Syne" brought a most successful gathering to a close.

During the evening an excellent musical programme was rendered by a quartette consisting of Miss Annie Bartle (soprano), Miss Florence Veming (contralto), Mr. James Horncastle (tenor), and Mr. Stewart Gardner (bass).

HUGH A. MACCORMACK, Hon. Sec.

LIVERPOOL UNIVERSITY VETERINARY MEDICAL SOCIETY.

A general meeting was held at the University on Tuesday, Nov. 7th, at 3.30 p.m. Present: The President, J. T. SHARE-JONES, Esq., F.R.C.V.S., M.Sc., in the chair; and Messrs. J. B. WOISTENHOLME, G. H. LOCKE, T. S. ATKINSON, T. DOBIE, H. HOLROYD, J. P. HEYES, J. MAGUIRE, A. WALKER, W. J. FLETCHER, P. CARTER, E. J. BURDRED, H. E. ANNETT, A. RICHARDSON, and W. WOODS.

Apologies for non-attendance were received from Messrs. A. TAYLOR, E. FAULKNER, J. BALL, and H. SUMNER.

Before the ordinary business was commenced it was agreed, on the motion of the President, to place on record the meeting's deep regret at the death of the late Sir R. BOYCE—a past president of the Society—and a personal friend of many of the members, and to acknowledge its very high sense of appreciation of the valuable services rendered to this Society, and to the veterinary profession as a whole by Sir Robert Boyce, especially his progressive attitude towards the relations between the medical and veterinary profession.

It was further resolved that the Society express its sincerest regret at the death of the late Prof. W. OWEN WILLIAMS, late President of the R.C.V.S., and Member of the Council of the R.C.V.S. The meeting desired to record its high appreciation of the services rendered to the profession by the late Prof. Williams in his capacity of writer and teacher.

These resolutions were passed in silence, the members all standing.

Mr. FRANK WARBURTON, M.R.C.V.S., was unanimously elected a member of the Society.

A letter was received from Mr. Gofton intimating that Rule 8 of the N.V.A. had been altered to permit members of the medical profession who at that time were ordinary members of any existing veterinary society to become members of the N.V.A. The meeting agreed that the Society become affiliated to the N.V.A. on condition that the amount of the assessment payable to the general funds of the N.V.A. be based upon the number of those eligible for membership of that Association.

It was resolved that in future all pathological specimens sent under Section 2 of the regulations of the Society be addressed to Mr. D. C. Mattinson, F.R.C.V.S., The Veterinary Pathology Department, The University. Specimens sent under Section 3 to be addressed to Dr. Annett, Runcorn.

Agreed that the next meeting be held on Tuesday, Dec. 5, at 3.30 p.m., when a paper will be read by Mr. A. B. Mattinson, F.R.C.V.S.

The discussion of the Presidential address was then resumed, and opened by Mr. J. P. Heyes, F.R.C.V.S., who was supported by Messrs. Burdred, Walker, Fletcher, Atkinson, Wolstenholme, and Richardson.

Mr. J. P. HEYES: It has been customary for as long as I can remember for the Presidents of Veterinary Societies to commence their period of office by giving an address on some subject of general interest to the profession, often what may be termed a domestic affair. It is looked for by the members of every Society, but it is not usually discussed. No apology need be offered for departing from the time-honoured course on this occasion, since it was adopted at the meeting following the election of president last year, with such success that I think all will agree a continuance of the practice is justified.

Another reason why the precedent set last year should be followed is that the theme chosen on this occasion is probably more interesting to us at the present time than any that could have been fixed upon.

The veterinary surgeon and the public. Two important circumstances enter into the consideration of the subject. Firstly, the qualification possessed by members of our profession, and secondly the requirements of the public.

That our attainments are such as to make us of considerable economic value to the people is evidenced by our existence, and by the progress made since our professional career began. It is undeniable that up to the present we have so far fulfilled the requirements of the public as to have gained full confidence.

With the progress of medical science which has been made in recent years, our ideas of disease, its causes and the conditions favourable or otherwise to its development and course have been very materially modified. Our knowledge and experience in this respect has caused us to direct our attention more and more to the prevention of disease.

Preventive medicine has now become a very important branch of medical study. There seems from the very earliest historical times to have been an impression in the minds of human beings that disease was preventable and could be lulled into a condition of impotence by the agency of charms, etc. Visitations of disease were, and in fact have been until comparatively recent times, regarded as manifestations of the wrath of the supernatural.

Early in the Christian Era certain diseases however, were believed to be infectious, and what is still the soundest preventive measure was advocated, namely, Isolation. It was not until the advent of the microscope that preventive medicine began seriously to develop. The discovery by Pasteur in 1863 of the first microbe of disease marked the epoch of revolutionary changes in

the medical world. Uncertainty gave place to certainty, and doubt was dissipated by actual demonstration.

One has only to call to mind the heavy losses borne by farmers in this country from Cattle plague, Pleuropneumonia, and other infectious diseases of stock to realise the importance of preventive medicine from an economic standpoint. Even now, in spite of all the precautions taken, large sums of money are lost every year through disease which will undoubtedly become preventable.

The matter is a serious one for the agriculturist, but when one remembers that many of these infectious diseases are communicable man, and that by want of adequate measures the health and lives of human beings are endangered, it becomes imperative that the best efforts should be made. Public bodies on whom devolve the duty of providing means for safeguarding the welfare of the people have in some localities looked to the veterinarian for assistance. In most of the smaller towns one finds the chief sanitary inspector under the supervision of the medical officer entrusted with the duties which properly belonging to the veterinary surgeon, such as inspection of cattle, cowsheds, milkshops, milk, and meat.

My experience of members of the sister profession engaged in Public Health work is that they welcome our assistance, and frequently recommend that our services be obtained for these duties.

If we compare our ways of dealing with the inspection of meat in this country with those which obtain on the Continent, we can only marvel at the apathy of the most enlightened people of the world. A uniform system of dealing with the work should be enforced all over the country, and placed under the control of members of our profession.

I notice that you, Mr. President, recommend veterinary surgeons to seek positions on public bodies. I am entirely in agreement on this point. The work connected with county or local councils frequently occupies a large amount of time, and often handicaps a practitioner in his struggle for existence. The older members of our profession who are able to place much of their work with assistants, and have spare time would be very serviceable.

To be identified with politics is not an unmixed blessing though, and one often gives offence quite unconsciously to one's clients through that medium. It is a duty all the same which we owe to our profession and to the public, and I know of no man who from his training and experience is better fitted for doing good service for the public on governing bodies than a veterinary surgeon. Much may be done, too, for our profession and agriculture by obtaining favourable acquaintance with our Parliamentary representatives. Members of Parliament, when any matter arises which affects the welfare of our calling are, in my experience, very thankful for information.

Training of the V.S. I wish to subscribe my approbation to the sentiments expressed by you, sir, respecting the need for better training on the part of our students. This is more particularly indicated in the case of men who aspire to Public Health appointments. The demand which will be made for veterinary surgeons to fill such posts will depend very largely on the qualifications of the men the profession has to offer. It is therefore incumbent upon us to recognise our own weaknesses and apply the proper remedies.

Already special courses of instruction in subjects which will assist our members in satisfactorily filling these positions have been instituted in connection with our schools, but I am afraid the time allowed is all too short for the work that ought to be accomplished.

In this age of specialisation we must keep pace with the times and arm our candidates with qualifications of indisputable value in the class of work to which they

aspire. A more intimate association with the universities would appear to offer to us a prospect of better facilities for study and research and, as Mr. Share-Jones has said, would probably be a means of securing funds to enable us carry out necessary but unremunerative work.

Pupilage. There is one portion of the training of a veterinary surgeon which is too often omitted, unfortunately nowadays, and which you, sir, have not made reference to, I mean that preliminary course in practical work which was, and sometimes is now obtained by a student before proceeding to College and during the vacations.

In your address you speak of the tendency of modern times to teach subjects of utilitarian importance even when the mind of the student is being prepared for the more important work connected with the calling which he desires to follow. Surely no better means exists of acquiring a preparatory knowledge of the animals amongst which he has to labour, and of their more common affections than by the serving of two years with a practising veterinary surgeon between the ages of 16 and 18 years. Any smart lad can pass the preliminary educational examination at 16 years, and 18 years is quite young enough for him to proceed to College.

During this time his interest will be aroused in the work of the profession and he will learn quite a large amount of useful information. The instruction given during his college course will be far more intelligible to him, and understanding, he will commence to assimilate the teaching at once. It is not so with the student who has not had the advantage of a pupilage, coming straight from school, and having absolutely no previous knowledge of the subjects he has to study, it is often difficult for him, to follow his teachers and consequently he is placed at a great disadvantage and often gets behind with his work as a result. Even if he is a very smart pupil and passes through his collegiate course quickly, his position when he is qualified is an unenviable one. He has managed to satisfy his examiners, but searching though such a test may be in the subjects taken, it cannot embrace much of the year's work. The task which has to follow is a more difficult one, namely, that of satisfying the public, and I am afraid an expert who cannot show a greater knowledge than his clients in conditions of animals which the latter does understand cannot impress them favourably.

It is truly lamentable to see a man who possesses the diploma of the R.C.V.S. unable to give a horse a ball or describing the incisor teeth of a cow as unsound, because they are loose. These and many worse exhibitions of want of information of the more commonplace nature I have encountered in qualified men. Other things being equal, we must expect men who have had the advantage of such a course to come out on the top. Again the practitioner, if he is a conscientious man, looks upon his pupil as a kind of godson, and prepares the lad by drawing on his own experience for many of the pit-falls which are encountered in practice.

Mr. E. J. BURNDRED: Mr. President, Mr. Heyes, and Gentlemen,—I much regret that I was unable to be present at the meeting when Mr. Share-Jones delivered his presidential address to the Society, but I have read it with great interest, especially as it deals largely with a question which is of great interest to me, that is, our place in public health work. Our President says that in the near future the profession will be confronted with the question of modification, and if necessary, amplification of its educational curriculum to meet the increased requirements which will be demanded in connection with the great question of public health. Now I beg to take exception to this wording. I say most emphatically that it is necessary to amplify the curriculum; students do not get training which fits them for their public

health duties, and if that is so, how can we expect to be appointed to these positions. Does the average final year student, for instance, get practical training in the examination of cows for tuberculosis of the udder? I don't mean *so called* typical tuber udders; there are plenty of these which are very misleading; but udders showing abnormality, and which are *known* to be positive by the application of the biological test to the milk.

Another important point is with regard to meat inspection. I think that it would be to the advantage of embryo meat inspectors if their training in this branch was obtained on the spot. By this I mean that they should accompany the meat inspector and see his procedure, and not merely see the meat after it has been seized.

Some of us who are at present holding public health appointments are fortunate, inasmuch as we are assistants to men who have made their mark as Veterinary Officers of Health, and who act as our teachers did in the old days, as counsellors and friends, but my appeal is for the present and future students, who will be called upon to carry out their duties without such help.

I am sorry to see the signs of the times with regard to the institution of University degrees. It seems to me to be the thin end of the wedge, and what is more important, wholesale granting of degrees by different examining bodies will not tend to make for uniformity in meat inspection, etc.

I should like to tender my thanks to our President for bringing forward this important subject, and for allowing a discussion. I would suggest that this Society should send a resolution to the R.C.V.S. asking them to revise the curriculum so as to better equip the future members of our profession for the work which will be before them.

Mr. JNO. B. WOLSTENHOLME: I have previously indicated my opinion that our President has given us a very valuable paper to discuss. In the main I am in agreement with him, and think, with respect to the entrance examination, that it requires toning up.

To my mind, Mr. Heyes, in opening the discussion has laid too much stress on the advantage to our profession of serving on public bodies; duty of this description is one of citizenship, and its claims rank higher than those of a profession, or of an individual.

There can be little doubt that a change is coming over the duties which the veterinary surgeon is called upon to perform, and some re-adjustment of the curriculum may be necessary. It strikes me as being unfair to expect that every man, at the time he receives his diploma to practise, should be perfectly equipped and fully competent to fulfil every demand which may be made upon him.

Especially is that the case with respect to the Public Health Service; in my opinion no man should be considered fully qualified for this work until he had taken a special course for the purpose, which should include practical teaching, to be followed by an examination which should be thorough, and one in which public bodies should place reliance and confidence.

The possession of a Diploma of Public Health should be equally necessary for the surgeon, or veterinary surgeon, before entering upon Public Health work; further there ought to be some central body or council whose duty it was to ensure that no such diploma was granted unless a definite standard of efficiency had been attained in the prescribed subjects. In other words there should be a State standard for a pass, wherever the diploma might issue from.

I am particularly pleased that certain degrees in veterinary science are now obtainable, and hope that our profession may be able to take its part in elucidating some of the many problems which medicine, in the

largest sense of that word, is putting forward for solution.

Mr. FLETCHER said he was glad of the opportunity of congratulating the President upon his excellent address, and also upon the fact that he was practising what he preached. As you may be aware Wales, as a memorial to the late King, have decided to institute a campaign against tuberculosis. It was my pleasure to attend one of the lectures held for that purpose. The lecturer was Mr. Share-Jones, the lecture most interesting and instructive. The Mayor of the Borough, a medical man, told me he considered it most enlightening, and he was sure the public had no idea that inspectorships were given to plumbers and tramcar conductors, that it was absurd and a waste of money for them to be placed in such positions with the necessary important duties to be performed. His Worship, the Mayor, also seemed very much impressed with the amount of good—from a public point of view—that must ensue when people were shown by the lecturer and limelight slides in a simple way the great danger they ran if their food supply was not properly inspected. For my own part I felt convinced our President was at the same time doing the veterinary profession good by demonstrating that we were capable, by our special training, of carrying out these duties. For this and for your Presidential address I beg to thank you.

The PRESIDENT expressed his thanks for the kind appreciation of his address. He felt particularly grateful to Mr. Fletcher for his reference to the public work which, with a few others, he was engaged in on behalf of his countrymen. They were engaged in that work not as medical men or veterinary surgeons, but as members of a community stimulated with one desire—to help the afflicted and protect the weak. He had some reasons to know that the work was appreciated by the public, and if incidentally it was proving of some assistance in enhancing the value of our profession in the public eye, then he was all the more pleased.

There was little for him to reply to, since the criticism of his address generally was constructive rather than destructive, and he was in the happy position of finding himself in almost complete accord with those who had spoken. It was commonly more difficult to adduce evidence in supporting a point than in opposition to it.

He agreed with Mr. Burndred and Mr. Heyes that there was need for a much more comprehensive training in the subject of meat and milk inspection. He had said so in his address. Meat inspection as practised in this country was just to no one. He did not think a guarantee should be required from the farmer or the butcher. The public should secure a general guarantee through their elected representatives or public bodies in the form of a general system of inspection with compensation provided out of the public funds. Of course there would be evasions. There were people who endeavoured to evade every law. But speaking generally, compensation out of the public funds would tend to diminish evasions rather than foster them, and would be equitable to farmer and butcher. His opinion was that, so far as being a means of eradicating tuberculosis for instance, the money which was being spent on meat inspection in this country might just as well be thrown into the gutter.

Mr. Heyes had raised the much discussed question of pupilage, which was not mentioned in his address. Whilst supporting the system of seeing practice with a veterinary surgeon, he (the President) was in direct opposition to Mr. Heyes when any system was advocated which would compel the son of a farmer who had lived his whole life on a farm to undergo exactly the same pupilage prior to entering a school as, for instance, the son of a draper who had no knowledge of the normal

conditions of animal life. Moreover, to require the boy of the latter type to spend two years with a V.S. before entering a school was, in his opinion, psychologically unsound.

The proper plan for such a pupil was at first on a farm, in order that he may be able to appreciate normal conditions before dealing with those which were abnormal. In this way his mind would undergo a rational development. There was another though perhaps less important aspect. If two years compulsory pupilage prior to entering a school were instituted, then taking five years as the time taken for an average student to pass his four professional examinations, this would mean that a boy at the outset would be called upon to enter on a seven years course. This would raise an economic difficulty which to the vast majority of parents and intending students would be absolutely prohibitive. Where was the return coming from for investing so much money and surrendering one-tenth of the life-span allotted to us? Whilst saying this he wished it to be understood that he yielded to no man in his desire to see the professional qualifications of their students as high as it was possible to make them, so far, of course, as was consistent with what was practicable. The previous home training, preliminary studies and financial resources of our students were so diverse that a general rule could not be formulated on an equitable basis, and it should remain as it hitherto was, a matter for the individual.

With regard to the University degrees, and in reply to Mr. Burndred, he could only say that if these were only conferred upon those who already possessed the license to practice, then those who wished to retain the one portal system need have no fear. He had mentioned this in his address. He (the President) advocated the granting of University Degrees for the power which they would bring to the profession—both to those who held the degree and those who did not. The holders of the degrees would become part of the University, and we should have representation in those quarters where public funds were disbursed for educational purposes. The value of our professional stock would be enhanced in the eyes of the public.

Mr. Heyes agrees with me that the profession should have a greater representation on our public bodies. But I cannot agree that the primary object in seeking election should be to secure appointments for members of our profession, but rather to act as guides and advisers when matters appertaining to our work arise, and to take our part in public work generally. The appointments would follow as a natural sequence where such were logically ours.

I am sorry that time has compelled me to curtail this discussion, but shall be pleased to discuss some of these points with Mr. Heyes when he reads his paper.

SPECIMENS.

The PRESIDENT submitted two cystic ovaries which had been removed from the mare. The subject was one upon which he demonstrated the operation to his class. Each member of the class was permitted to explore the vagina before the incision was made. He then made the incision above the os, and after exploring the abdominal cavity himself, allowed each student to do likewise, ordinary precautions being taken. The ovaries were then removed, the vagina swabbed out, and the mare was doing well at Messrs. Sumner's, and might be exhibited at the next meeting. He mentioned the case to show that no one need fear attempting the operation providing ordinary precautions are taken.

Afterwards the members had tea together.

ARNOLD RICHARDSON, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders				Sheep Scab.	Swine Fever	
	Outbreaks		Animals		Out-breaks	Animals.	(including Farcy)		Counties Affected	Out-break-	Out-breaks.	Slaugh-tered.	
	Con-firm'd	Re-ported	Con-firm'd	Re-ported			Out-breaks	Animals.	Animals Attacked				
GT. BRITAIN. Week ended Nov. 18	30		33				3	13			8	46	549
Corresponding week in	1910	32		36			4	5	London 7		11	25	229
	1909	20		22			8	15			16	23	116
	1908	25		30			16	58			23	53	350
Total for 46 weeks, 1911	790		969		18	467	188	456	Middlesex 6		346	2192	26299
Corresponding period in	1910	1290		1539	2	15	327	945			385	1317	12251
	1909	1145		1493			482	1651			526	1483	13233
	1908	972		1267	3	112	719	2248			701	1856	11723

Board of Agriculture and Fisheries, Nov. 21, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Nov. 18	1	1	...	...	...	...	...	7	9	80
Corresponding Week in	1910 ...	...	...	...	...	...	...	...	4	1	17
	1909 ...	...	...	...	...	...	...	...	14	...	...
	1908 ...	...	...	...	...	...	...	1	8	1	8
Total for 46 weeks, 1911	...	9	14	...	...	2	3	53	294	131	2189
Corresponding period in	1910 ...	7	11	...	...	1	2	63	395	84	1920
	1909 ...	8	8	...	...	...	...	70	349	86	1561
	1908 ...	7	10	...	...	...	...	36	317	154	3543

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 20 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Parasitic Mange Prosecution at Loughton.

On Friday, 17th, at Epping Petty Sessions, before W. C. Waller, Esq., Chairman; F. Dent, A. W. Leech, C. W. Skinner, and H. Triggs, Esq.

Charles Lucas, of Loughton Hall Farm, Loughton, a foreman in the employ of Messrs. Pickford, was summoned for failing to give notice of a case of parasitic mange.

Mr. Freeman Barrett, barrister, instructed by Messrs. Beard, solicitors, was for the defence, and pleaded not guilty.

Charles Fry, of Loughton, an inspector under the Diseases of Animals Act, said: I produce a copy of the Essex Parasitic Mange Order, 1909. About 2.30 p.m. on Nov. 1st, in company with Veterinary Inspector Howard, I visited Loughton Hall Farm, in the occupation of Messrs. Pickford, Ltd. I saw the defendant, Charles Lucas, and I said "We want to have a look at your horses." He said, "Very well, come this way." In No. 38 Box we found a chestnut gelding, No. 4767, branded on the off fore foot, which was suffering from skin disease, on the legs, hocks, thighs, and under the breast. Mr. Howard took portions of the hair and scurf from the animal, and on the 2nd Nov. he certified that it was affected with parasitic mange. On Nov. 3rd I went to the farm again. I saw the defendant, who is the foreman in charge there. He said that the horse came from Bearson's Depot, on Sept. 14th suffering from grease, and he had since been treating it for leg mite which he understood did not come in the Parasitic Mange Order. The other horses on the farm were examined by the veterinary inspector and found to be free from mange.

Mr. F. Dent, J.P.: The charge is that they ought to have known it was parasitic mange?—Witness: They ought to have notified the police.

In cross-examination by Mr. Freeman Barrett, witness said he knew defendant as an honest, straightforward man.

When he said he thought it was suffering from leg mite you believed it?—I did, to a certain extent. The leg mite is very seldom found high.

Your evidence is the lower hock was affected, the legs, that is to say the extremities of the body?—That is where it showed.

That is where the leg mite shows?—So I understand, below the knee or hock.

In bad cases extending to the uppers?—Yes.

You have known the foreman some time?—Yes.

He has given advice you wanted and helped you in every way?—Yes.

You don't doubt he is a truthful man?—No.

You have no doubt when the man said it was suffering from grease and leg mite he said what he believed to be true?—Yes, I think that is true. I pointed out to him a little scurf.

You have more knowledge than he has?—I think not. He meets with hundreds of horses.

The man told you he was treating the horse because it was suffering from grease and leg mite?—Yes.

Do you know of your own experience it was not symbiotic mange, which is not included in the Order?—If he had taken reasonable precautions he would have found it was not leg mite.

Mr. Barrett: I draw your Worship's attention to the three kinds of mange symbiotes or leg mite are speci-

ally excluded by the orders. The man told the Inspector he was treating for leg mite which is not included in the order, and if he was doing that honestly he did not evade the order. The point is did the man make an honest mistake? It is a large farm isn't it?—Yes.

You know Pickford's and Company?—Yes.

You know they own thousands of horses?—I should say so.

This is what they call their Sanatorium or Rest Farm?—Yes.

Horses affected in London are sent down there, and this was one of them?—Yes.

Did you examine the whole of the horses on the farm? How many were there in all?—81 in all.

Of all the number you only found two regarded as suspicious?—Yes, one a roan gelding, and one a chestnut.

Mr. Howard is examining veterinary surgeon. Did he examine those?—Yes, one, I don't know what it was suffering from—one was found afterwards not to be suffering with the mange.

But to be affected with ringworm?—I don't know about that.

The horse you say found to be suffering with mange was not much affected?—Yes on the legs.

The whole body was not covered?—When I visited on the 9th it was apparently rubbing its hind-quarters.

You examined 81 horses and found 2 suspicious. Don't you think this an excellent result?—Yes.

It shows care was exercised?—I must say he is a very careful man.

Mr. Howard had to put it under a microscope before saying yes or no?—Yes, but Lucas could have done the same.

He would not do that if he thought it was leg-mite would he?—You have been to the farm on many occasions; how many in the last two years?—A dozen.

Have you seen everything on the farm?—Oh, yes, there was no obstacle at all.

And nothing to complain of?—Last March, two cases, and he was officially cautioned. I was directed by the Clerk of the County Council.

You did not bring them here?—No.

Percy S. Howard, F.R.C.V.S., a Veterinary Inspector under the Essex County Council, said: On the afternoon of November 1 I visited Loughton Hill Farm in the occupation of Messrs. Pickford, and saw a chestnut gelding there with skin disease principally affecting the inside of the thighs. I took scrapings of the scurf patches in the position I have mentioned and I found the parasites of psoroptic mange microscopically, I certified the disease to be parasitic mange.

Cross-examined by Mr. Barrett: I want to ask you, there are three kinds of mange, and you agree that symbiotic mange is not included?—Exactly.

You found the inside of the thighs affected?—Yes.

And the hocks and the region of the hocks?—Not below the hocks.

I understood you took scrapings from the legs?—From the upper parts inside the thigh.

Did you find the legs affected?—Not so much as the thighs.

Were the legs affected?—They might have been slightly.

But psoroptes affect more principally the lower part of the body and upper skin surface?—They may.

This book says that symbiotes affect the upper skin. Therefore, whatever the nature of the parasite, don't you think a man with limited knowledge would suspect symbiotic and not psoroptic mange?—A man of his knowledge would not appreciate it—I mean would not differentiate.

Mr. F. Dent, J.P.: We want to know what a man with practical knowledge might reasonably be expected to suspect.

Mr. Barrett: Exactly. I put it to witness in this way Would a man of Lucas' standing understand the difference between the different parasites, or suspect them?—He would not be able to distinguish. He would know the horse had skin disease, and might know he had mange, but would not know what variety.

I suggest when he said the leg mite he would mean the excluded mite—the symbiotic mite?—No doubt he did mean it.

Therefore, unless he could see what was actually improved he believed he was treating something excluded from the Order?—Quite possibly.

Would you mind looking at this, it is a beautiful specimen, isn't it? (Specimen handed to witness).

Witness: I think it is symbiotes.

Mr. Barrett: I think you are absolutely wrong. What is that?—That is psoroptes.

You thought this was symbiotes; that is the excluded one. This is a criminal prosecution, you know.

Witness: It might be symbiotes.

Can you tell me what this is. It is a lovely specimen?—It resembles a symbiotes.

You did not make up your mind on the first visit to the farm in this case?—No.

Mr. Dent, J.P.: This is very interesting, but it does not seem to bear directly on the point whether they ought to have suspected.

Mr. Barrett: I understand you, but it is very important, as it may shorten the case very much.

To witness: The neighbouring horse was suffering from ringworm, wasn't it?—I did not find any parasites on that one.

Would you go further and say it was ringworm?—I would not say that.

Lucas was not a horsekeeper?—No, sir.

You went on the 1st Nov. and were not able to say definitely whether it was mange or not?—Well, it was a case one would suspect of mange.

Mange is a highly dangerous disease. If he did his duty, he would treat it in the interests of his firm. Had any dressings been applied as far as you know?—I should think they might have been.

It would be to the interest of the firm to discover mange at the earliest possible moment?—Yes.

Would you, as a veterinary surgeon, knowing the difficulties attending the diagnosis of mange, expect a man in Lucas' position to reasonably have known of the mange?—I think so, because it is such a common disease amongst horses.

And the horse was only slightly affected, whatever it may have been?—Quite so.

There was one case in 81 horses; are you going to say he was to blame?—I never said he was.

Do you think he was?—It is a very difficult thing to express an opinion on. I don't think either way would be fair.

Mr. F. Dent, J.P.: The real practical question is, ought a man of his position and knowledge to have known. You say that the horse had been suffering from grease?—Yes.

Are you prepared to say a man in Lucas' position, with his practical knowledge, ought to have suspected parasitic mange?—The man had so many horses. It is rather a complicated question.

It is quite a simple question. The point is: As a practical horsekeeper ought a man in Lucas' position to have suspected from what he saw that parasitic mange had developed in his horse at that stage?—It was obvious the horse had skin disease.

But notifiable disease. That is the point. I suppose a horse with grease would have some symptoms of skin disease?—Oh, it is a skin disease decidedly.

You have not answered my question. Ought a man in Lucas' position to have suspected it was a notifiable

disease!—The patch on the leg was large enough if he had noticed the horse. The point is whether in a number of horses he might overlook it.

Mr. Dent: I won't press the question if you can't answer.

This concluded the case for the prosecution, and Mr. Barrett suggested that he had no case to meet after the answers of the last witness.

The Bench consulted, after which the Chairman said: We think the case had better proceed.

Mr. Barrett: I ask you to take note that I submit from the evidence there can be no conviction. Mr. Howard said the defendant, with a large number of horses, might overlook it. He cannot give an opinion one way or the other.

Mr. H. Triggs, J.P.: But he was treating the case. How could he overlook it?

Mr. Barrett: They are always doing that; it might be nothing.

The Chairman: In the opinion of the Bench there is some reason for the case to go on.

DEFENCE.

Prof. Harold Woodruff, M.R.C.V.S., Professor of Medicine at the Royal Veterinary College, and lecturer, inspected the specimen which Mr. Howard had placed under the microscope, and said it was undoubtedly psoroptes.

Mr. Barrett: If there were 85 horses and only one affected with the disease, could a man with Lucas' knowledge be reasonably expected to suspect psoroptes and sarcopes as distinct from symbiotes?—I should say the ordinary horsekeeper knows the leg mite. From what I saw I should say the horse was recovering from a parasite, and the man might well think it was leg mite or itching leg.

If the man said it was suffering from grease, and treated it for leg mite, is that what you would reasonably expect?—Yes.

Cross-examined by Inspector Fry: If defendant had sent a portion of the scraping to the veterinary surgeon, do you think it would have been found out?—Professor Woodruff: I think that would presume he suspected it. The usual situation of psoroptic mange is about the mane and tail, and I failed to detect any adhesion there, psorptic or sarcopic, and all the books say it affects the coarse hair. It is so in fact with psoroptes and rather a common situation with others; it may spread to other situations, but not commonly.

You heard my evidence—that the horse was rubbing its hind-quarters?—The horse may rub its tail when it has itching leg.

You would not find the leg mite about the body?—My contention was that with itching it might easily rub its hind-quarters. I took scrapings from several places and found no parasites at all. I admit the legs inside the thighs and hocks were much worse affected.

Whatever the condition, it more especially pointed to itching leg?—To a man of Lucas' standing, he would think it was itching leg and leg mite.

Mr. Dent, J.P.: Any more expert evidence?—Mr. Barrett: I have two more.

Mr. Dent, J.P.: I don't see that more expert evidence will take us further. The order states that anybody having in his possession a horse affected by parasitic mange shall give notice. We have had no evidence. You don't dispute the owners had in their possession a horse having parasitic mange.

Mr. Barrett: The order does not say a person "shall know" but "having known."

Mr. Dent: The other point is: You have a man in charge, not, of course, highly trained in microscopics but presumed to know the ordinary symptoms of diseases and the opportunity of referring, if he likes, to the veterinary surgeon for the farm. When would a

man in his position call the attention of the veterinary surgeon to the case?—Mr. Barrett: we would almost say this was a sanatorium and the veterinary surgeon was in attendance when required, and the man could consult him in matters affecting the condition of the horses.

Charles Lucas, the defendant, said: I was in charge of these horses. I was foreman. I knew my instructions, and the horses received good treatment from me. I treated the horse in question in the first case for leg mite. He had grease from the hocks downwards, and I treated him for leg mite only. That is the only dressing the horse received. Until Mr. Howard visited the farm I had no suspicion whatever of there being any other condition than leg mite.

Mr. Dent, J.P.: Was the treatment ordered by the veterinary surgeon?—In that case I used my own discretion, because it was a clear case of grease.

You were treating the horse entirely on your own responsibility?—Yes.

Was your attention called to grease by the veterinary surgeon?—I found it out myself.

You did not see at any rate anything to cause you to report the case to the veterinary surgeon?—I should have done so.

You did not in fact?—No. My strict orders are when anything occurs to a horse I am to report to them and they will come down.

You did not in fact report anything about this horse?

—No, because grease is common and in the position of farm bailiff I am supposed to understand it.

Mr. Dent, J.P.: But the horse in point of fact had developed parasitic mange.—I did not know that.

Cross-examined by Mr. Fry: How long have you been foreman in charge?—Roughly, about 3 years.

You have a large number of horses under you?—Something like 150.

How many in the course of the year, roughly?—I should say some thousands—different horses.

You treat them for all kinds of different diseases, and you have a very good knowledge of horses?—Not particularly. I take a farmer's view of horses. I was a farmer's son, and we had about six horses. That is the knowledge I have of them.

How many suspected cases have you reported to me?—None at all.

The Bench retired and on their return the Chairman said:

JUDGMENT.

In this case the Bench after very careful consideration had decided to convict. There is no doubt that the horse was affected with parasitic mange, and though we do not consider that there was any wilful concealment on the part of Lucas, the circumstances were such that his suspicions ought to have been aroused, and that having regard to the importance of stamping-out the disease he should at any rate have taken the opinion of the firm's veterinary surgeon.

Mr. Barrett: Will you permit me to say one thing on that judgment? There is no doubt you are right in coming to the conclusion that the man should have called the surgeon's attention, but having regard to what you have said, I ask you to consider that to my firm the question is very important, and of course, to avoid a conviction upon the firm or one of their servants is the crux of the whole thing. May I suggest that justice will be met by paying costs without the actual recording of a conviction.

The Chairman: We convict, and of course we wish that the public should understand that in these cases every possible precaution must be taken. I do not think we can escape the necessity of fining.

Mr. Barrett: I had hoped you would say that a conviction need not necessarily be recorded. Everybody in the district will know through the local papers that

it is an offence, and that we have to pay the costs. It will make no difference to the public.

The Chairman: I am afraid we cannot consider that, because of course the public must know, and the public goes very largely on the decisions in these cases. We have decided to fine you 40/-, and 4/- costs.

PARLIAMENTARY.

Sir Fleetwood Wilson, the Financial Member of the Governor-General's Council, some time ago warned the Legislative Council of India that, in view of the approaching diminution of income due to the loss of the opium revenue consequent upon the agreement with China, it was absolutely essential, if increased taxation were to be avoided, to ensure "greater sobriety" in expenditure. The Government proposed to make a beginning by suppressing certain central appointments created in order that the Governor-General in Council might have expert advice, and might through the officials holding these posts, exercise a certain amount of authority over the local governments by way of co-ordination and general supervision. The Financial Member had marked down for abolition at the earliest convenient moment seven or eight appointments, and among them were those of the Director-General of Archaeology, of the Inspectors-General of Forests, of Agriculture, and of the Civil Veterinary Department, that of the Sanitary Commissioner with the Government of India, and those of Inspectors-General of Cantonments and of Excise in Salt.

The Secretary of State for India, in the course of his reply to Lord Curzon in the House of Lords on Nov. 2nd, said that, in consultation with the India Council, he had agreed to the abolition of the offices of Director of Agriculture, Inspector-General of the Civil Veterinary Department, and Inspecting Officer of Cantonments, but that it had been decided that it was necessary to retain the Director-General of Archaeology. With regard to certain other offices a final decision was reserved, but in agreement with the India Council he had formed the opinion that it was desirable to retain the office of Sanitary Commissioner, while asking the Government of India to consider what the actual relations of the Sanitary Commissioner to the Director-General of the Indian Medical Service should be.

* * * * *

In the House of Lords,

Earl CURZON raised a debate on the question of the abolition of the offices of Director-General and Inspector-General in several Departments of the India administration, and asked the Secretary of State to explain the policy of the Government in this respect.

The SECRETARY OF STATE: With regard to the office of Inspector-General, Civil Veterinary Department, Lord Crewe said that he agreed with the Government of India that it should be abolished; the provincial departments had gained experience, of which they made full use, and there was a Central Board of Veterinary Science which dealt with the problems in which veterinary surgeons were interested. It was believed that this Board would be able to exercise all the functions hitherto performed by the Inspector-General.

IMPORTED MILK.

In the House of Commons,

Mr. STANIER (Shropshire, Newport, Opp.) asked the President of the Board of Trade whether he could state the amount of milk imported into this country from Europe during this year, and showing the amounts separate for each country.

Mr. BUXTON (Tower Hamlets, Poplar): The total imports of fresh milk from Europe during the first ten months of this year amounted to 8,065cwt., of which 5,464cwt. were imported from France and 2,601cwt.

from the Netherlands. In addition, 9,177cwt. of cream were imported from Europe, of which 6,726cwt. were imported from France, 1,618cwt. from the Netherlands, 798cwt. from Norway, and 35cwt. from various other countries. These figures are, of course, exclusive of the imports of condensed milk, pure produce, and milk otherwise preserved.

Mr. STANIER: Is this milk examined to see that it does not contain any disease or contamination?

Mr. BUXTON: If the hon gentleman will give me notice of the question I will explain exactly the regulations.

Acorn Poisoning.

At Skirwith, Penrith, during the last ten days, Mr. T. Walker, Home Farm, lost five yearlings; Mr. M. Howson, Primrose Bank, one cow and two yearling heifers; Mr. W. Mallinson, Staingills, one cow and two two year old heifers, and Mr. J. Davidson a two year old heifer. In addition several farmers have cattle suffering from the same cause. In the Kirkoswald district, Mr. J. Thompson, Fog Close, lost four cattle and a young Clydesdale horse, and Messrs. Thompson, Demesne, two calving heifers and two horses.

Mr. Rumney, Keld Farm, near Bolton, Appleby, has suffered great loss on his farm, alleged to be due to his stock eating acorns in the fields. Early in the week a pedigree cow sickened and died, and later a valuable pedigree Clydesdale mare succumbed. There was no post-mortem. It was thought that the animals had died through a surfeit of acorns.

At Scotby Farm, tenanted by Mrs. Irving, six cattle were found to be ill on Sunday morning. By the time Mr. J. G. Bell (Messrs. Carlisle, Bell and Son) arrived three of the cattle were dead. A fourth animal had since died. A post-mortem examination has shown that the animals had been eating a yew tree.

Milk Scarcity Committee—Ireland.

His Excellency the Lord Lieutenant has appointed a Committee to inquire into this scarcity, and report upon the causes of the deficiency, and also to inquire into and report upon the dangers of contamination and infection in the present milk supply. The members of the Committee are—Mr. P. J. O'Neill, J.P. (Chairman), Sir John Lentaigue, F.R.C.S.I., Mr. George A. Moorhead, F.R.C.S.I., Mr. Alec. Wilson, of Belvoir Park, Belfast, Mr. Dermot O'Brien, President of the Royal Hibernian Academy, Mr. John R. Campbell, B.Sc., Mr. Albert E. Mettam, B.Sc., M.R.C.V.S., Principal in the Royal Veterinary College of Ireland, Lady Everard, of Randlestown, Navan, and Miss Margaret McNeill.—*Farmers' Gazette*.

The Board of Agriculture have awarded Research Scholarships in Agricultural Science to the following gentlemen:—P. G. Bailey, B.A., J. Clayton, B.A., J. T. Edwards, M.R.C.V.S., E. T. Halnan, B.A., J. Hammond, B.A., J. A. Hanley, A.R.C.S., G. E. Johnson, M.Sc., C. G. P. Laidlaw, B.A., A. E. Lechmere, M.Sc., J. W. Lesley, B.A., A. Neville, B.Sc., and G. T. Spinks, B.A. These scholarships have been established in connection with the scheme for the promotion of scientific research in agriculture, for the purposes of which the Treasury have sanctioned a grant to the Board from the Development Fund. The scholarships, which are of the annual value of £150, and are tenable for three years, have been established in order to train promising students, under suitable supervision, with a view to their contributing to the development of agriculture, either by carrying out independent research, or by acting in an advisory capacity to agriculturists.

PRESENTATION.

A very pleasant little ceremony took place at the King's Head Hotel, Sheffield, on Tuesday evening, Nov. 21st. It took the form of a presentation of 10 volumes of recent veterinary works to Mr. A. W. Noel Pillers, late District Veterinary Surgeon to the Great Central Railway, who is leaving the town. Each work contains the following inscription:—To A. W. Noel Pillers, F.R.C.V.S., as a token of esteem and recognition from his colleagues in Sheffield: Joseph Abson, F.R.C.V.S.; W. G. Jones, F.R.C.V.S.; Wm. J. Young, F.R.C.V.S., D.V.S.M.; T. C. Fletcher, M.R.C.V.S.; Geo. Green, M.R.C.V.S.; H. R. Laycock, M.R.C.V.S.; Herbert Nixon, M.R.C.V.S.; S. Nixon, M.R.C.V.S.; W. H. Murgatroyd, M.R.C.V.S.; S. E. Sampson, M.R.C.V.S.; H. Thompson, M.R.C.V.S.; J. H. Yates, M.R.C.V.S.

The meeting was presided over by Mr. T. C. Fletcher, M.R.C.V.S.; and Mr. Joseph Abson, F.R.C.V.S., made the presentation. The latter, in a happy and well chosen speech, commented upon Mr. Pillers' ever willing desire to help his brother practitioners, and on his keenness in matters veterinary. He wished, on behalf of the donors, every success and good health in his new appointment. Remarks of a similar nature were expressed by Messrs. Herbert Thompson, M.R.C.V.S., and S. E. Sampson, M.R.C.V.S.

Mr. PILLERS, in returning thanks for the handsome present, said he had done nothing more than his duty, and was more indebted to the Sheffield V.S. for the hospitality which had been extended to him, than they were to him. He was sorry to have to leave, but the books he had just received would always be a happy reminder of his Sheffield colleagues.

Votes of thanks to the Chairman and Mr. H. R. Laycock, who had organised the presentation, closed a pleasant and well deserved send off.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Nov. 17.

SPECIAL RESERVE OF OFFICERS.

ARMY VETERINARY CORPS.

Stuart Kirby Jones to be Lieut. (on probation). Dated Nov. 18.

OBITUARY.

WILLIAM THOMAS SABIN, M.R.C.V.S., Invercargill, N.Z.
Graduated, Lond: April, 1870.

WALTER JAMES BEART, M.R.C.V.S., King's Lynn.
Graduated, Lond: May, 1862.

The death has just occurred at King's Lynn of Mr. Walter James Beart, M.R.C.V.S., veterinary surgeon to the King at Sandringham. Mr. Beart was 74 years of age, and was a nephew of the late Prof. James Beart Symonds, Principal of the Royal Veterinary College. From 1863 until the time of the death of the late King Edward he was His Majesty's veterinary surgeon at Sandringham, and was one of the oldest Royal warrant-holders in Norfolk. He took his degree very early in life, and at the age of 18 years served as a veterinary surgeon in the Crimea. He had a large practice, and was much respected and esteemed throughout Norfolk.

FIBROLYSIN—AN ENQUIRY.

Sir,

Can any of your readers give their experience of fibrolysin?

I have been using it on a pony mare which received a kick on the postero-lateral aspect of the near hock about ten weeks ago. The wound healed up all right, but the

hock remained very much enlarged. After blistering twice with no result, I injected fibrolysin five times, four times into gluteal region and once into neck. The injections were made every second day.

After the fourth injection the hip became swollen and painful, and still remained so. That is now ten days ago. The neck within 24 hours of the injection in that situation became very much swollen and painful, with a good deal of constitutional disturbance. The swellings are not now so large, but there is a good deal of pain and some stiffness of limb, otherwise the pony appears all right.

The injections were all made antiseptically, a 5 per cent. solution of carbolic acid was used both for syringe and skin, the fibrolysin was warmed before using.—Yours etc.,

ENQUIRER.

COST OF MOTORING FOR A V.S.

Dear Mr. Editor,

Mr. Taylor of Hayward's Heath, has sent you particulars of the expenses of his motor car. I enclose you a cutting from *The Peoples Journal* (published in Dundee) of 21st Oct. giving an analysis of the cost of running and maintaining the motor car of the Lord Provost of Glasgow. You will see the figures are taken from the municipal accounts of that city.—Yours truly,

S. V.

"We wonder when the Corporation of Glasgow resolved to supersede the horse-driven carriages by a superb motor car for the Lord Provost, and whether the cost of running and maintaining the car formed part of their deliberations as to the utility of the change. It is the first cost of a motor car that usually sticks most people from indulging, but it is apparent from the accounts of Glasgow's Common Good Fund that the upkeep of this new method of conveying Glasgow's honoured chief is to cost the citizens a "bonny penny."

Appended are the details of expenditure precisely as they appear in the accounts of Glasgow's Common Good Fund for the year.

LORD PROVOST'S MOTOR CAR.

Wages of chauffeur and assistant	£197 0 0
Outfits of chauffeur and assistant	42 12 6
Petrol, tyres, repairs, and sundries	753 8 8
Insurance—fire, theft, and accident	19 8 9
Depreciation of car, 20 per cent. on	
£903 15s. 6d.	180 15 1

Total £1193 5 0

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(Several Communications are unavoidably held over.)

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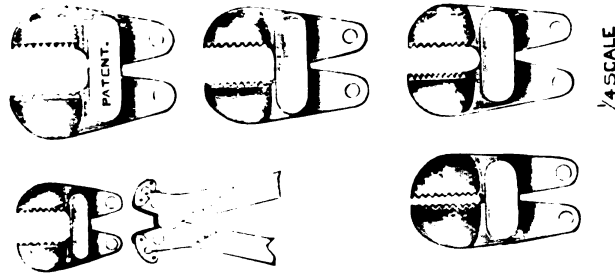
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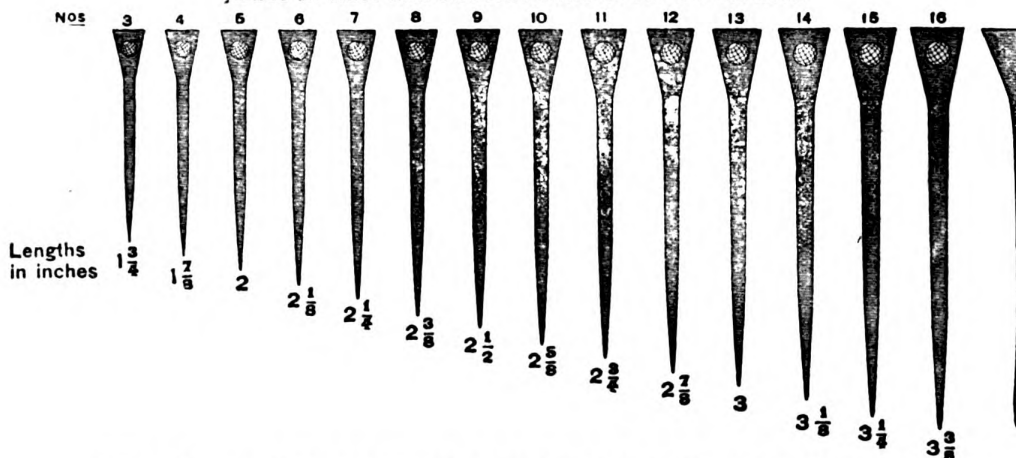


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No. 1221.

DECEMBER 2, 1911.

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The Central Veterinary Society

A GENERAL Meeting will be held at 10 Red Lion Square, W.C., on Thursday, Dec. 6th, at 7 o'clock. Agenda. Routine business: President's address: Delegates' reports, Mr. A. L. Butters, R.S.I. Congress, Belfast, Mr. J. J. Kelly, R.I.P.H. Congress, Dublin: "Botriomycosis," by Prof. G. H. Wooldridge.

HUGH A. MACCORMACK, Hon. Sec.

Lancashire V.M.A.

THE Quarterly Meeting will take place at the Grand Hotel, Manchester, on Thursday, Dec. 7th. Meeting 4 p.m. The President, J. W. Brittlebank, Esq., in the chair. Agenda. Routine business: Election of officers: Mr. Ackroyd, M.R.C.V.S., will read a paper on "Retention of the Placental Membranes in the Cow."

G. H. LOCKE, Hon. Sec.

Liverpool University V.M.S.

A GENERAL Meeting will be held on Tuesday next, Dec. 5th, at the University at 3-30. The business will include a paper by Mr. A. B. Mattinson, F.R.C.V.S., "Some Observations on Bovine Tuberculosis and a Pure Milk Bill," and an interesting Series of Pathological Specimens will be submitted by the members.

H. E. ANNETT. ARNOLD RICHARDSON, Hon. Secs.

Southern Counties Veterinary Society

A SPECIAL General Meeting will be held at the Holborn Restaurant, London, W.C., on Wednesday next, December 6th. The President, Mr. William Hunting, F.R.C.V.S. will take the chair at 2-45 p.m. Business: Routine. Paper by Col. L. J. Blenkinsop, D.S.O., P.V.O. Southern Command, on "The Possibility of Preventing the Present Conflict of Veterinary Evidence in Police Court Cases." Discussion to be opened by the President. The Annual Dinner will be held in the Restaurant at 5-30 for 6 p.m. Tickets, 5/-, payable at the table. Morning dress. Members may introduce visitors.

J. ALEX. TODD, Hon. Sec.

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Subscriptions to the amount of £20,006 10s. have already been intimated. The Scotch Education Department has promised to contribute (up to the sum of nearly £25,000), an equivalent to the amount raised by subscriptions. The sum, therefore, now required to complete the Scheme is £5000.

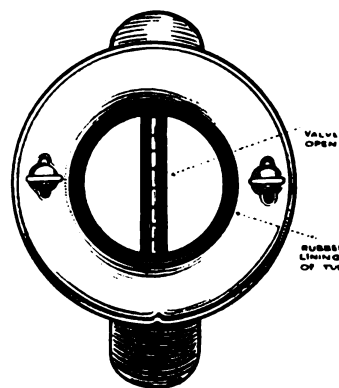
LIST OF SUBSCRIPTIONS INTIMATED.

A. I. MacCallum, Esq., M.R.C.V.S., J.P., Edin- burgh, towards Building and Equipment (con- ditional on balance of £5,000 being subscribed by Whitsunday 1912)	£2,000	0	0
Do. towards Purchase of Site	8,000	0	0
		£10,000	0 0
The Town Council of Edinburgh	-	3,000	0 0
The Carnegie Trustees	-	2,000	0 0
The Guarantors of the Edinburgh Exhibition of 1908	-	2,000	0 0
The late James Clason Harvie of Brownlee, Lanarkshire (Legacy)	-	500	0 0
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of which has been obtained	-	220	0 0
		280	0 0
The Highland and Agricultural Society of Scotland	-	400	0 0
The County Council of Aberdeen	-	250	0 0
The Staff of the Royal (Dick) Veterinary College	-	200	0 0
Anonymous	-	200	0 0
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A. Paterson, Esq., M.R.C.V.S., Christchurch, New Zealand	-	30	0 0
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THE VETERINARY RECORD

A Weekly Journal for the Profession.

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RESEARCH SCHOLARSHIPS FOR VETERINARY SURGEONS

It is barely two months since Mr. Stockman, in his inaugural address at Camden Town, drew attention to the research scholarships which are now opening to our graduates. Few of his hearers, perhaps, imagined at the time how speedily a veterinary surgeon would profit by these new facilities. Last week we published a list of the recipients of the first twelve Scholarships in Agricultural Research awarded by the Board of Agriculture; and in that list appeared the name of Mr. J. T. Edwards, M.R.C.V.S.

The Board of Agriculture will award twelve more such scholarships annually for two years to come, each being tenable for three years, and of the annual value of £150. They are not intended either as a permanent source of income to those who gain them, or as a means of obtaining additional degrees. Their object is to enable men to "train seriously as investigators"—to afford promising graduates a maintenance during the period necessary for their development into specialists in research. The idea is no new one, for similar scholarships in many subjects have long been in vogue. What is new is that these are open to veterinary surgeons.

Mr. Edwards graduated last July, after a distinguished college career. That career, and doubtless the personal recommendations of his teachers in addition, have gained him his scholarship. Analogous scholarships have long been accessible to young medical graduates of the same calibre; and many a brilliant student has developed into a reliable investigator by their means. But hitherto a veterinarian desiring to advance in this direction has been obliged to do so at his own expense; and unless either possessed of private means or fortunate enough to obtain one of the very few paid positions—such as a professorship of anatomy—which carry exceptional facilities for study along with them, his progress has been practically barred. At last the Government has recognised the wisdom of facilitating veterinary research, and the scholarships just created are the first, but not the last, step towards it. The scholarships are only a part of an extensive scheme for the development of agricultural science, which includes the maintenance at certain institutions of workers upon special subjects, veterinary among the rest.

The pick of our young graduates have now far better chances than ever before. Something is to be done by the State to assist their higher scientific training; something, also, to utilise its results. Recognition of veterinary science by the State has come very slowly, but it seems to be here at last.

LINGUATULA LARVÆ AND PERITONITIS.

By A. S. LEESE, L.C.V.D.,
Investigating Camel Diseases.

Through the kindness of Mr. Leese, we are able to reprint the following article from *The Journal of Tropical Veterinary Science*, Vol. VI., Part III.

Colin found larvæ of *Linguatula tænioides* in the mesentery of a dromedary many years ago.

In the course of my work with Indian camels in which for some time at first I did not find these larvæ, it was found that they have a predilection for a certain group of glands which were only occasionally examined, the group draining the cæcum and colon.

Since this was noted, the parasites have been found in nearly half the cases in which they were searched for, which shows that they are exceedingly common in this situation in Punjab camels; more rarely they can also be found in the lymph glands of the small intestine.

The affected glands are generally inflamed in patches and show little cavities in which the parasites have been encysted; the inflammation is most marked when larvæ are abundant.

In September, 1909, when in Montgomery district a number of good-conditioned camels were found to be dying from a peritonitis which was characterised by the formation of a mass of new inflammatory tissue around and between the coils of the colon which led to strangulation of the bowel, and sometimes rupture of the bowel.

The usual duration of this disease was 10 or 12 days.

The disease did not appear to be contagious since the cases occurred independently; the blood, when inoculated into a camel and some other animals, was found innocuous; neither foreign body nor volvulus were present, nor any lesion other than peritonitis except the gangrene and inflammation of the intestine for a short distance in front of the point of strangulation. Only one post-mortem (under very adverse conditions) was carried out by me, and I failed to find any channel by which bacteria could have reached the peritoneum in the first place; but it must be admitted that the lymph glands of the intestines were hardly examined at all. An assistant made several further post-mortems and brought specimens of the lesions with him to headquarters, whereby it was found that the lesion was similar in all the cases; but the lymph glands of the part were unfortunately forgotten.

Later, when *Linguatula* larvæ had been found common in the camel in the lymph glands of the cæcum and colon, it occurred to me that this peri-

tonitis might be due to the irritation caused by the wanderings of *Linguatula* larvæ after leaving the lymph glands; but the inflammatory new tissue had been thoroughly searched for small parasites without success, and it is hardly possible that free larvæ in it could have been missed.

Although I visited Montgomery again in September, 1910, I was unable to get hold of another case of this peritonitis, although I found *Linguatula* larvæ there in one camel out of three which had died of other diseases.

In October, however, a case of acute peritonitis occurred at Sohawa which seemed to shed some light on the matter. The camel was an old one, in good condition, but affected with surra, and destined for experimental treatment; he arrived on 4th October, and was then kept for observation of blood and temperature until 17th, when the first symptoms of peritonitis were noticed. Up to this date he had been grazed and fed along with 20 others under ideal conditions; the weather was good, and no reason for the onset of the disease could be discovered.

He died on 20th after only 3½ days' illness, and on post-mortem peritonitis was the only lesion; it was acute (with no time for formation of inflammatory fibrous tissue) and diffused, though the lesions were most pronounced in the mesenteries of colon, rectum and small intestine, and in the peritoneal covering of colon.

The glands of the cæcum and colon and many of those of the small intestine were swollen and intensely inflamed, contained large numbers of *Linguatula tænioides* larvæ, and were full of cavities which had been occupied by the parasites, many of these cavities opening on the outer surface of the glands. There was no enteritis, nor was any other channel for infection found, nor was the camel harbouring *Schistosomum* (a parasite of this genus has lately been found fairly common in the camel).

No free larvæ could be found in the peritoneal cavity, showing that the peritonitis could hardly have been caused by the mechanical irritation of *Linguatula* larvæ wandering free in the peritoneal cavity; but the functional destruction of the lymph glands due to the large number of larvæ appears to have allowed the access of bacteria from the intestine to the peritoneum, the larvæ of *Linguatula tænioides* thus acting in an indirect manner in bringing about the peritonitis.

Had this camel not died so quickly of toxin absorption, it is possible that the productive inflammation characteristic of the peritonitis seen in Montgomery would have eventually taken place.

The fairly frequent occurrence of peritonitis in camels in good condition without external cause, the frequency with which *Linguatula* larvæ are met with in partially destroyed or inflamed lymph glands of the intestines, and the Sahawa case above described indicate that *Linguatula* larvæ may be found to be of considerable practical importance on further investigation of the diseases of camels and possibly also of other animals.

INHALATION OF SMOKE CAUSING DEATH.

By HENRY TAYLOR, F.R.C.V.S., Haywards Heath.

A few weeks ago I was asked to see a horse belonging to an orchid and carnation grower. The animal was perfectly all right one Saturday morning, and was sent to work in the garden in close proximity to a heap of burning refuse from which were evolved dense volumes of a particularly pungent smoke. Two men were working with the horse for about two hours under those conditions, and they were taken with sickness in the afternoon with violent retching and pain in the chest, but this had passed away by next morning. On the Monday morning the horse, when I saw him, presented all the symptoms of a bad attack of pneumonia, but a noticeable symptom was a curious bright red or scarlet appearance of the mucous membrane of the nostrils, a condition which I remembered is said to occur in poisoning by meth. hæmoglobin. The heart was beating tumultuously at the rate of 85 to the minute. The animal refused all food, got rapidly worse, and died during the course of the night of the following day. The day before he died there was an extremely fetid diarrhœa.

ABSTRACTS.

AN UNDESCRIBED ORGANISM SIMULATING BLACK-QUARTER IN ITS PATHOGENICITY.

Major F. G. H. Baldrey describes (*Journal of Tropical Veterinary Science*, Vol. VI., Part III.) a hitherto undescribed organism which may prove, in India at least, to be of considerable importance.

It is a di-morphic cocco-bacillus, appearing in the form of short rods which divide in coccoid chains. It is non-sporulating and Gram negative. In many of its characters it closely resembles an organism already described by Ludwig Lauen as having caused considerable loss in laboratory animals. Baldrey gives a table of comparison between the two organisms, from which it appears that, though similar, they are not identical, as some points of difference can be observed. Both organisms are pathogenic to guinea-pigs, rabbits, and mice; and Baldrey's microbe is also pathogenic to cattle and sheep.

Injected subcutaneously, Baldrey's organism usually causes local pain, soreness, and swelling. Injected intra-peritoneally, it causes congestion of the mesentery. In either case the tissues around the seat of inoculation present an appearance closely resembling that of quarter-ill, but the characteristic odour of that disease is absent. Death is common, after a course which may be acute, lasting from 1 to 4 days, or more or less chronic, extending over 10 to 20 days. Recovery may, however, occur; and occasionally subcutaneous inoculation gives negative results.

Death seems to occur from toxæmia. When inoculated subcutaneously, the organism can be

recovered from the local lesion, but not from the general circulation. When inoculated intra-peritoneally, it can be isolated by cultural methods from the blood of the heart, but the organisms are so few that they are undemonstrable by microscopic examination of the blood.

The organism was first found in a sheep which, in the course of some experimental work at Bareilly, died after being vaccinated for anthrax. At first it was thought that death was due to anthrax, but closer examination proved it to have been caused by this new organism. Sheep seem much more susceptible to the organism, and much more liable to acute toxæmia from it, than cattle.

In cattle especially, the effect of subcutaneous inoculation tends to become chronic, forming a swelling which is hard and painful at first, and, if situated in the leg, causes marked lameness. This symptom is of importance on account of its possible confusion with quarter-ill. Of late, cases have been reported of animals dying of intercurrent disease after inoculation with "blacklegoids," which deaths were supposed to be from quarter-ill. Baldrey thinks it very likely that they were really due to this new microbe, and emphasises the importance of careful investigation of all cases reported as quarter-ill, especially after the use of "blacklegoids."

Further experiments upon the organism and its toxin have been undertaken by Dr. Hartley, and are still in progress. Some have been in the direction of protective vaccination, which does not seem to be very successful in this disease; and the preparation of an anti-toxic serum appears more hopeful. This latter is now being worked upon, and will form the subject of a further report.

ACTINOMYCOSIS OF THE RECTUM IN THE HORSE.

Markus records (*Tydschrift voor Veeartsenijkunde*) the following case. The subject was a cross-bred Oldenburg mare, four years old, which for some time had been losing condition and showing difficulty in defæcation. Rectal exploration had revealed the existence of a marked engorgement of the roof of the rectum. The mare was put to grass with a view to rendering defæcation more easy.

However, the loss of condition became more accentuated, while the rectal stenosis increased from day to day. At the end of four months from the onset of the first symptoms, defæcation became impossible, and the animal was destroyed.

The post-mortem examination resulted as follows. In the rectal wall, about four inches in front of the anus, was a neoplasm of about from nine and a half to ten inches in diameter. Its surface was flat towards the lumen of the gut, and convex towards its exterior. Its greatest thickness was about four and a half inches. The mucous membrane, which covered it completely, was almost normal; but at some points the tumour showed a diminution of consistence, and at these places the mucous membrane was in some degree infiltrated with neoplastic tissue. Beneath the mucous membrane was a tissue of slight consistence, yellowish-grey superficially, but red-brown in its deep layers. In some

places a meshwork was found, filled with creamy, inodorous, yellowish pus.

Microscopical examination showed that the neoplasm was actinomycotic in nature. The actinomyces were surrounded by a large quantity of pus cells, amongst which, especially in the superficial portion, fibroblasts were found. In the microscopic preparations, the actinomyces were seen in the form of fine filaments, sometimes granular, and collected in a network. The spores were abundant in the meshes which were formed amongst these filaments.

The corresponding lymphatic glands were engorged and lardaceous, but did not show any specific lesion.

This observation is of interest from the species of animal in which the lesion was found and the special localisation of the disease. Huttyra and Marek, and also Friedberger and Fröhner, while mentioning the possibility of actinomycosis affecting the horse, say nothing of its rectal localisation. Kitt does not even name the horse among the animals capable of contracting actinomycosis.

Markus himself insists upon the great rarity of equine actinomycosis; for, during a period of five years, the anatomo-pathological institute with which he is connected has only received one case of this nature, while a dozen cases of bovine actinomycosis have been encountered during the same period in the same establishment. Equine botryomycosis, on the other hand, is much more frequent than equine actinomycosis, for eleven cases have been seen at the Institute. Five of these were in the spermatic cord, two in the skin of the breast, two in the skin of a hernial sac which had been operated upon, one on the perineum, one on the shoulder, and one in the liver and diaphragm.

In the case reported above it is probable that the infection of the rectal wall had been produced by an awn of rye or wheat contaminated by actinomycosis. The author suggests the possibility of a diagnosis during life by curettage of the neoplasm and microscopical examination of the fragments of tissue collected by the curette.—(*Annales de Méd. Vét.*)

W. R. C.

ORDER OF THE BOARD OF AGRICULTURE AND FISHERIES. (DATED NOVEMBER 22, 1911).

PARASITIC MANGE ORDER OF 1911.

The Board of Agriculture and Fisheries, by virtue and in exercise of the powers vested in them under the Diseases of Animals Acts, 1894 to 1911, and of every other power enabling them in this behalf, do order, and it is hereby ordered, as follows:

Definition of Parasitic Mange.

1. The expression "parasitic mange" in this Order means sarcoptic mange or psoroptic mange in a horse, ass, or mule.

Separation of Diseased and Suspected Animals and Notice of Disease.

2.—(1) Every person having in his possession or under his charge a horse, ass, or mule affected with or

suspected of parasitic mange shall (a) as far as practicable keep that animal separate from horses, asses, and mules not so affected or suspected; and (b) with all practicable speed give notice of the fact of the horse, ass, or mule being so affected or suspected to a constable of the police force for the area wherein the horse, ass or mule so affected or suspected is, who shall forthwith give information of the receipt of the notice to an Inspector of the Local Authority.

(2) In the administrative county of London (including the City of London) the notice may be given to an Inspector of the Local Authority.

(3) An Inspector of the Local Authority who receives information of the existence or supposed existence of parasitic mange shall forthwith report the fact to the Local Authority.

Notification of Disease by Veterinary Surgeons.

(3) The Animals (Notification of Disease) Order of 1910 shall be read and have effect as if parasitic mange were included in the list of diseases to which that Order applies, and as if notice of the existence or suspected existence of parasitic mange were required by that Order to be given by a Veterinary Surgeon or Veterinary Practitioner to an Inspector of the Local Authority.

Veterinary Inquiry by Local Authority as to existence of Parasitic Mange.

4.—(1) The Local Authority on receiving information of the existence, or supposed existence, of parasitic mange shall forthwith cause inquiry to be instituted as to the correctness of such information with the assistance and advice of a Veterinary Inspector, or of a veterinary practitioner qualified according to the Act of 1894 to be a Veterinary Inspector.

(2) The owner and occupier of any premises on which there is a horse, ass, or mule affected with, or suspected of, parasitic mange, shall give all reasonable facilities for the enquiry by the Local Authority under this Article.

Detention and Treatment of Animals.

5.—(1) A Veterinary Inspector of the Local Authority may serve a notice (in the Form A set forth in the Schedule to this Order, or to the like effect) on the occupier of any stable, shed, field, or other premises in which there is a horse, ass, or mule which in his opinion is affected with parasitic mange, and thereupon the following restrictions shall take effect:

(i) The horse, ass, or mule so affected shall not be moved out of the stable, shed, field or other premises specified in the Notice, except with the written authority, and under the supervision, of an Inspector of the Local Authority, and only to some other place of detention or to a knacker's yard: and during the detention it shall from time to time, as often as may be necessary, be treated by the owner thereof with some dressing or other remedy for parasitic mange approved for that purpose by a Veterinary Inspector of the Local Authority or a Veterinary Surgeon or Veterinary Practitioner employed by the owner of the animal to examine it;

(ii) No other horse, ass, or mule shall be moved out of the stable, shed, field or other premises unless on each occasion immediately before the movement it is treated with some dressing or other remedy for parasitic mange approved for that purpose by a Veterinary Inspector of the Local Authority or a Veterinary Surgeon or Veterinary Practitioner employed by the owner of the animal to examine it;

(iii) No horse, ass, or mule shall be allowed by the owner or person in charge thereof to stray out of the stable, shed, field or other premises.

(2) A Notice under this Order shall remain in force until it is withdrawn by a Notice in writing served on

the occupier of the premises by an Inspector of the Local Authority.

(3) Where a Notice refers to two or more diseased animals the Notice may subsequently be altered so as to refer to one or more of such animals only.

(4) An Inspector shall with all practicable speed send a copy of any Notice served under this Article to the Local Authority and to the police officer in charge of the nearest police station of the District.

Cleansing and Disinfection.

6.—(1) Any place in which a horse, ass, or mule affected with, or suspected of, parasitic mange has been kept shall, if and when so required by an Inspector of the Local Authority, be cleansed and disinfected by, and at the expense of, the occupier of such place as follows:—

(a) The place shall be swept out, and the sweepings shall forthwith be well mixed with quicklime and be effectually removed from contact with horses, asses or mules; and

(b) The floor of the place and all other parts thereof with which such horse, ass, or mule has come in contact shall be thoroughly washed, or scrubbed, or scoured with water; then

(c) The same parts of the place shall, so far as is practicable, be disinfected in accordance with the subsequent provisions of this Article.

(d) In the case of a field or other place which is not capable of being so cleansed and disinfected, it shall be sufficient if such field or place be cleansed and disinfected as far as practicable and to the satisfaction of an Inspector of the Local Authority.

(2) Every utensil, manger, feeding-trough, pen, hurdle, harness, clothing, or other thing used for or about a horse, ass or mule affected with, or suspected of, parasitic mange shall, as soon as practicable after being so used, and before being used for any other horse, ass or mule, be cleansed by being thoroughly washed, or scrubbed, or scoured with water, and subsequently disinfected in accordance with the subsequent provisions of this Article, and such cleansing and disinfection shall be carried out by, and at the expense of, the owner of the thing.

(3) Every place or thing, or part thereof, required by this Article to be disinfected shall be thoroughly coated or washed with—

(a) a one per cent. (minimum) solution of chloride of lime containing not less than thirty per cent. of available chlorine; or

(b) a four per cent. (minimum) solution of carbolic acid (containing not less than ninety-five per cent. of actual carbolic acid), followed by a thorough sprinkling with limewash; or

(c) a disinfectant equal in disinfective efficiency to the above-mentioned solution of carbolic acid, followed by a thorough sprinkling with limewash.

(4) If any person fail to cleanse and disinfect any place or any utensil, manger, feeding-trough, pen, hurdle, harness, clothing, or other thing, or to remove any litter, in accordance with this Order, it shall be lawful for the Local Authority, without prejudice to the recovery of any penalty for the infringement of this Order, to cause such place or such utensil, manger, feeding-trough, pen, hurdle, harness, clothing, or other thing to be cleansed and disinfected, or to remove such litter, and to recover summarily from such person the expenses thereby incurred.

(5) Where the power conferred by the preceding provision of this Article is exercised by the Local Authority, the occupier of the place, and the owner of thing, to be cleansed and disinfected shall give all reasonable facilities for that purpose.

Prohibition to expose or move Animals affected with Parasitic Mange.

7.—(1) It shall not be lawful for any person—

(i) to expose a horse, ass, or mule affected with parasitic mange in a market, fair, sale yard, or other public or private place where such animals are commonly exposed for sale;

(ii) to place a horse, ass, or mule affected with parasitic mange in a lair or other place adjacent to or connected with a market, fair, or sale yard, or where such animals are commonly placed before exposure for sale;

(iii) to send or carry, or cause to be sent or carried, a horse, ass, or mule affected with parasitic mange on a railway, canal, river, or inland navigation, or in a coasting vessel;

(iv) to carry, lead, or drive, or cause to be carried, led or driven, a horse, ass, or mule affected with parasitic mange on a highway or thoroughfare, except with the written authority of an Inspector of the Local Authority;

(v) to place or keep a horse, ass, or mule affected with parasitic mange on common or uninclosed land, or in a field or place insufficiently fenced, or in a field adjoining a highway unless that field is so fenced or situate that any horse, ass, or mule therein cannot in any manner come in contact with any horse, ass, or mule passing along that highway or grazing on the sides thereof;

(vi) to graze a horse, ass, or mule affected with parasitic mange on pasture being on the sides of a highway; or

(vii) being the owner or person in charge of a horse, ass, or mule affected with parasitic mange, to allow it to stray on a highway or thoroughfare or on the sides thereof, or on common or uninclosed land, or in a field or place insufficiently fenced.

(2) Where a horse, ass, or mule is exposed or otherwise dealt with in contravention of this Article, an Inspector of the Local Authority or other officer appointed by them in that behalf may seize it and remove it, or cause it to be removed, to some convenient and isolated place to be there isolated and treated by the Local Authority in accordance with the provisions of this Order: or, on the application of the owner or person in charge of the animal, the Inspector or officer may authorise its removal with a view to its detention and treatment, and the removal of the animal by or under the authority of the Inspector or officer shall not constitute a contravention of this Article.

(3) The Local Authority may recover the expenses of the execution by them or by their Inspector or other officer of the provisions of this Article from the owner of the horse, ass, or mule seized.

Weekly Returns as to Disease.

8. When, as the result of the veterinary inquiry prescribed by Article 4 of this Order, parasitic mange is found to exist, the Local Authority of the District shall cause a return thereof to be made forthwith to the Board, on a form provided by the Board, with all particulars therein required, and shall continue so to cause a return thereof to be made on the Saturday of every week until all the diseased animals have been accounted for as killed, died or recovered.

Extension of certain Sections of Diseases of Animals Act, 1894.

9. Horses, asses, and mules shall be animals, and parasitic mange of horses, asses, and mules (in this Order called parasitic mange) shall be a disease for the purposes of this Order and of the following sections of the Act of 1894 (namely):

Section forty-three (*Police*):

Section forty-four (General Administrative Provisions);

and also for the purposes of all other sections of the said Act containing provisions relative to or consequent on the provisions of those sections and this Order, including such sections as relate to offences and legal proceedings.

Exemption of Army Veterinary Service and Veterinary Colleges.

10. Nothing in this Order applies to horses, asses, or mules which are the property of the Crown, or are in stables of military barracks or camps and under the care and supervision of the Army Veterinary Service, or to horses, asses, or mules in stables of any Veterinary College affiliated to the Royal College of Veterinary Surgeons.

Offences.

11.—(1) If a horse, ass, or mule is moved in contravention of the restrictions imposed by any Notice under this Order, the owner of the animal and the person for the time being in charge thereof, and the person causing, directing, or permitting the movement, and the consignee or other person receiving or keeping it knowing it to have been moved in contravention as aforesaid, and the occupier of the place from which the animal is moved, shall, each according to and in respect of his own acts and defaults, be deemed guilty of an offence against the Act of 1894.

(2) If any person, without lawful authority or excuse, proof whereof shall lie on him—

(i) does anything in contravention of this Order; or

(ii) where required by this Order to keep an animal separate as far as practicable, or to give notice of disease with all practicable speed, fails to do so; or

(iii) fails to do anything which by this Order he is required to do;

he shall, according to and in respect of his own acts and defaults, be deemed guilty of an offence against the Act of 1894.

Interpretation.

12. In this Order—

“The Board” means the Board of Agriculture and Fisheries;

“Inspector” includes Veterinary Inspector;

“The Act of 1894” means the Diseases of Animals Act, 1894.

Other terms have the same meaning as in the Act of 1894.

Revocation.

13.—(1) Any Order of the Board relating to parasitic mange of horses, asses, or mules, in force at the date of commencement of this Order, shall thereupon be revoked, and any Regulation made by a Local Authority under any such revoked Order shall thereupon cease to operate.

(2) Nothing in this Article shall affect the operation of a Notice served under any Order hereby revoked, or the power to withdraw such Notice.

Extent.

14. This Order extends to England and Wales and Scotland.

Commencement.

15. This Order shall come into operation on the first day of January, nineteen hundred and twelve.

Short Title.

16. This Order may be cited as the PARASITIC MANGE ORDER OF 1911.

In witness whereof the Board of Agriculture and Fisheries have hereunto set their Official Seal this L.S. twenty-second day of November, nineteen hundred and eleven.

T. H. ELLIOTT, Secretary.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders				Sheep Scab.	Swine Fever.	
	Outbreaks		Animals				(including Farcy)		Counties Affected				
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Animals.	Out-breaks	Animals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.	
Gr. BRITAIN.													
Week ended Nov. 25	19		21				4	7		8	41	731	
Corresponding week in	1910	28	28				3	11	London 5	14	43	373	
	1909	31	35				13	30		8	27	118	
	1908	24	27				11	39		20	37	388	
Total for 47 weeks, 1911	809		990		18	467	192	463	Surrey 2	354	2232	27030	
Corresponding period in	1910	1318	1567	2	15	330	956			399	1360	12624	
	1909	1176	1528			495	1681			534	1510	13351	
	1908	996	1294	3	112	730	2287			721	1893	12111	

Board of Agriculture and Fisheries, Nov. 28, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Nov. 25	...	...	...	...	...	...	...	10	12	155
Corresponding Week in	1910	...	1	...	...	...	...	...	10	2	47
	1909	...	...	...	...	...	...	...	13	1	1
	1908	...	...	...	...	...	...	...	8	1	5
Total for 47 weeks, 1911	...	9	14	...	...	2	3	53	304	143	2344
Corresponding period in	1910	7	12	...	...	1	2	63	405	86	1967
	1909	8	8	...	...	...	...	70	362	87	1562
	1908	7	10	...	...	...	...	36	325	155	3548

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 27, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

A Tuberculous Cow in the Hull Market.

A dairy farmer, named William Fussey, residing at East Huntrow, Bridlington, was summoned at the Hull Police Court on Friday, November 24th, for having exposed for sale in the Hull Cattle Market a cow which was unfit for the food of man. Mr. G. C. Knee, Deputy Town Clerk, prosecuted for the Hull Corporation, and Mr. Harry Wray defended. The defendant pleaded guilty.

Mr. James McPhail, Chief Food Inspector for the port and city of Hull, stated that on Monday, the 23rd October, he found the cow in that portion of the Hull cattle market which was reserved for fat stock intended for the food of man. It had an udder which was as hard as a board. The animal, which had a bad cough, was rotten with tubercle.

The Stipendiary (Mr. J. G. Hay Halkett): As a cattle dealer and a farmer, ought he not to have known there was something wrong with the cow?

Mr. McPhail replied that the defendant ought to have known from the state of the udder and from the cough. He did not think defendant knew the cow was suffering from tuberculosis. Defendant ought to have sent it direct to the slaughterhouse to be slaughtered under proper supervision, instead of taking the risk of exposing it in the market.

Mr. Knee: If sent to the slaughterhouse, who takes the risk?—The owner.

And if to the market, who takes the risk?—The butcher loses the whole thing—the entire loss falls upon him.

Continuing, Mr. McPhail said he had during the last eight years and a half taken 1,600 carcasses affected with

tuberculosis, which had been sold for from £2 to £25 and £26, and he only knew of three cases in which the butcher got his money back in full. The purchasing butcher thought he did splendidly if he got £5 back for a beast he had paid £25 for. On the morning following the seizure in this case, the beast was condemned by the Stipendiary, and ordered to be destroyed. Upon the animal being slaughtered witness found every organ except the brain affected with tuberculosis. The udder was practically solid with tubercle.

The Stipendiary: It must be a nice thing for the people of Bridlington to know that they may have been using milk from this cow.

Witness: The cow must have been giving infected milk for six months previous to the seizure. The glands were simply huge masses of tubercle.

Cross-examined by Mr. Wray, witness said the cow was fat, and looked well. Its condition was so good that a butcher might have bought, and taken the risk.

Mr. Wray: Mr. Fussey could have sent the cow to a slaughter-house in Bridlington, where no one but he and the butcher would have seen it. I suppose there is no meat inspector.

The Stipendiary: Is there only one meat inspector for the whole of the East Riding?

Mr. Wray: I am told there is no meat inspector for the Borough of Bridlington.

The Stipendiary: If that is true, it is a scandal. A man in the East Riding with sufficient time to devote to the town would be all right; but only one meat inspector for the whole area would be absolutely dangerous.

The defendant gave evidence stating that he had lived on the farm for 21 years. He had a fall in March last,

and since that time he had not milked the cows. That duty had been done by his son, who was about 23 years of age. The cow in question weighed 44 stones, and would have sold for £11 to £13. He had no knowledge whatever of tuberculosis.

The Stipendiary: The sooner you acquire some elementary knowledge the better. It is a serious thing when milk is supplied from affected cows to children.

Defendant said he had no idea there was anything wrong with the cow, and he had kept cows for thirty years.

The Stipendiary decided to convict the defendant of sending to the market an animal which was found to be affected with general tuberculosis. There was no reason to believe that he knew the beast was suffering from that disease. But his son ought to have known from the state of the udder that there was something wrong, and something which he ought to have reported to the defendant. It was terrible to think what might have been the consequences if the cow had been sold for human food and consumed in that city or elsewhere.

There would be a fine of £5, including costs.

Mr. J. W. Hardy, Chief Assistant Food Inspector, Hull, was called into court, and, in reply to the Stipendiary, said there was no regular meat inspector in Bridlington.

Mr. Knee said that was practically the case in many other places.

The Stipendiary: It is a very serious state of affairs. It may be common, but it is not desirable.—*The Yorkshire Post*.

Next Year's Thoroughbred Stallion Show.

The Board of Agriculture has just issued its premium regulations for 1912.

In lieu of a travelling fee of 10s. 6d. for each mare served, a sum of 50 gs. will be paid to the stallion owner after the close of the season on production of a certificate that the stallion has regularly travelled the district for which it was awarded a premium.

Every stallion must be registered under the Board's registration scheme before it can be accepted for entry. The registration year is November 1st to October 31st, and re-registration will only be undertaken between November 1st and March 1st.

A stallion will not be registered or retained on the register unless it is certified to be sound and suitable for breeding purposes, and is free from the following diseases and defects:—Cataract, roaring, whistling, ringbone, sidebone, bone spavin, navicular disease, shivering, stringhalt, defective genital organs.

No veterinary examination will be made at the show.

Tuberculous Pork.

A Thames Police Court on Saturday last, before Mr. Dickinson, Frederick Thompson, grocer, of Bradford Street, Bocking, Essex, was summoned as the owner of a diseased pig which was sent to the London market.

Mr. Young, who prosecuted on behalf of the Stepney Borough Council, said on October 27 Mr. H. Abson, food inspector, saw a hamper outside a shop in Whitechapel, and attached to it was a label bearing the defendant's name and address. The hamper contained seven pigs' carcasses. Two carcasses had certain glands removed. The third carcass, the subject of that summons, was extensively affected with tuberculosis.

Dr. D. L. Thomas, Medical Officer of Health, said the throat glands of the pig were affected with tuberculosis, and that rendered the whole carcass unfit for human food. It was true there was some modification of that rule at Smithfield, and in consequence he com-

municated with the Local Government Board. He received a reply that since the last Royal Commission there had been no modification of the regulations.

On behalf of the defendant, Mr. C. E. Jones, barrister, said his client bought the pigs from a well-known auctioneer, and a good price was given for them. The defendant did not do his own killing.

The defendant said he gave 46s. 6d. for the pig, and that was a good market price.

The slaughterer of the pig, J. Nash, of Cressing Road, Braintree, was then summoned for knowingly allowing the carcass to be sent to London.

Mr. Jones said Nash had no idea that there was anything wrong with the pig.

Mr. Dickinson remarked that the amount of carelessness exhibited in the case was very great indeed.

Mr. Young said Nash had previously been fined £20 and £5 5s. costs for a similar offence.

Mr. Dickinson fined Thompson £15 15s. and £5 5s. costs, and Nash £42 and £10 10s. costs.

Neglect of a Horse at a Railway Station.

At Howder on Saturday, Harry Boynton, railway porter, of Staddlethorpe, was charged with cruelty to a horse. Inspector Wilson, of the R.S.P.C.A., said that on October 14th last a horse was sent from Goole to a horse slaughterer named Webster, of Gilderdyke. The animal reached Staddlethorpe Station, on the North-Eastern Railway, at 4 p.m., and defendant, who was foreman porter on duty, had the horse box detached and shunted into a siding, and left it. It was defendant's duty, said Inspector Wilson, to see that the horse box was unloaded and white-washed, but he did not do this, and the horse remained in the box, without food or water, from Saturday afternoon till Tuesday morning. The stationmaster then had the horse watered, and sent to Webster's premises. The animal died before it could be shot.

Thomas Leeson, stationmaster at Staddlethorpe, said he was not aware till the Tuesday that there was an animal in the horse box. It was Boynton's duty to see that the box was unloaded and cleaned out. In answer to Mr. Laverack, of Hull, who defended, witness said it was perhaps his duty to see whether there was a horse in the box or not. It was his duty to advise the consignee, but this was not done.

Mr. Laverack submitted that there was no case against defendant. The Bench must find that defendant knew the animal was not being fed and watered.

The Chairman of the Bench (Mr. Schofield) said there had been extraordinary laxity all round. They ordered defendant to pay the costs of the case.—*The Yorkshire Post*.

Dumfries Filly Case.

In Dumfries Sheriff Court on Friday, November 17th, Sheriff Campion heard parties' agents on the proof in the action. [The proof appeared in our issue of November 18th.]

Mr. John Irving argued the case for defender, and Mr. John M. Haining, appeared for the pursuer.

Mr. Irving said they had some remarkable evidence regarding the price of the filly. The pursuer told them that Mr. Houston, V.S., Paisley, offered £100 for her on the 3rd June; and it was rather remarkable that on the 20th June, after she had been mated with one of the best horses in the country, that he then accepted £100, notwithstanding that he would have had to pay a considerable fee and that her value would be a good deal increased. It was suggested that Mr. Berwick wanted out of the bargain, but the correspondence, which had a strong bearing on the case, showed that there was not

the slightest ground for such an impression. He pointed out that Professor John R. M'Call, Glasgow, in his certificate mentioned that there was a splint on the near fore leg. That, therefore, was merely a qualified certificate, and did not bear out the warranty given by the pursuer of "soundness and correctness in every respect." It was also noteworthy that Prof. M'Call never saw the large articulation and prominent processes referred to by his father, Principal M'Call. It was, he thought, a suspicious circumstance that Mr. Watson, pursuer's Glasgow agent, on 4th July wrote that he had the certificate of two eminent veterinary surgeons to disprove that the filly had ringbone, and yet one of these veterinary surgeons, Mr. Andrew Robb, in cross-examination stated that he did not send his certificate till the 5th July. His friend in his cross-examination of the veterinary experts, tried to make much of Mr. M'Intosh being called in, and made rather grave insinuations. But he asked his lordship to observe that Mr. M'Intosh had not been Mr. Berwick's veterinary surgeon for many years. The suggestion of his friend seemed to be this. Mr. Berwick and Mr. M'Intosh were friendly, consequently Mr. Berwick went to Mr. M'Intosh and tried to get him out of a rue-bargain. It was unthinkable that men like Principal Dewar, Edinburgh, and Mr. M'Intosh would go into the witness-box and deliberately tell what they did not find. The whole of his expert witnesses had spoken to the filly being lame. If Mr. Berwick had wished to get out of the bargain he would have asked Mr. M'Intosh and his other witnesses to examine the filly generally. Instead of that they were asked to report only as to the animal's pasterns. On five occasions Mr. M'Intosh examined the filly, and found her lame four times. So that there was not the shadow of a doubt that the filly was lame, or that that lameness was due to ringbone. He quoted from Mr. Ross Stewart on "The Law of Horses" to show that the bare affirmation that a horse was sound was not *per se* a warranty. They had another suspicious circumstance. That was when the experts went to see the filly at West Linton she was found not in a park or field as they would have expected at that season of the year, but in a loose-box and with a "cradle" on her neck. That showed she was being treated. The pursuer said that was for hair; but if that were so the treatment would have been applied all round to the four pasterns. Instead of that the treatment was only applied to the faulty fore pasterns. An exhibitor would naturally want hair on all four feet. It was also extremely suspicious for this reason, that at that season of the year the hair was coming off. Mr. Irving said they had thirteen witnesses for the pursuer, and they were rather a curious combination. He showed that nearly all of them were related one to the other. It was also noteworthy that they gave evidence which was really outwith that case—they did not tell whether the filly had ringbone or not.

The Sheriff: The evidence of Mr. John C. Johnstone, Peebles, rather impressed me. He examined the filly for the insurance company.

Mr. Irving: That was for foaling risks—whether she was in a state to carry a foal and in such a state as the insurance company would care to take the risk. That is entirely different to an examination for the purpose of finding if any particular parts are at fault.

The Sheriff: The insurance company were anxious for a veterinary certificate before insuring her to see if she was sound.

Mr. Irving: Yes, my lord; but that applies to the filly coming to the foaling.

The Sheriff: That does not come out in the evidence. He says that the pastern joints were in keeping with the rest of the filly.

Mr. Irving: He would not have his mind on the pastern joints to the extent that the witnesses for the defender had. He pointed out as against the case for the

pursuer that none of the seven experts for the defender said anything about large articulations or prominent processes. Their evidence all went to show that there was nothing unusual about the filly's pastern at all. On the pursuer's side they were simply reduced to the testimony of Principal M'Call, whose evidence that there were prominent processes was against all the opinions of the experts for the defender. So that they had one man who said there was no disease, and eight who found distinct symptoms and traces of disease—in fact disease itself. They had absolutely no veterinary authority in any of the text-books, so far as he was aware, to show that prominent processes could be mistaken for ringbone. As against the theory of the witnesses for the pursuer that it was so unusual to have a horse so young with ringbone, he referred to the case pending this week in the Kirkcudbright court, where they had a young animal with ringbone, and moreover they had as one of the witnesses who testified to the ringbone, Principal M'Call. He submitted that his experts were not deceived, and he had proved beyond doubt that the animal was unsound from ringbone.

Mr. Haining pointed out that this was the first time the pursuer had been in court. He referred to the case of *Scott v. Steel* in 1837, where it was found that it was not necessary to use the words "I warrant" to guarantee a horse.

The Sheriff: I don't think there is much trouble about the warranty here.

Mr. Haining, in dealing with the purchase of the filly, called attention to the fact that Mr. Berwick had stated in his evidence that at Newton-Mearns he put his hand on the filly's shoulder, but never put his hand on the hoof heads. "Now, frankly," said the agent, "I don't think anyone conversant with horse dealing matters would be prepared to believe a statement such as that. Mr. Berwick is not purchasing a filly like that every week, or I suppose every year." It was admitted that this was a beautiful filly, and there was a suspicion that Mr. Berwick rashly and incautiously gave £50 more than he intended to do. The bargain was completed in a hurry at Langside station, and the whole situation was summed up in this—that Mr. Berwick had repented of his bargain. He argued that the history of the filly discredited the idea that she suffered from ringbone through heredity.

The Sheriff: No doubt it can arise through an accident.

Mr. Haining pointed out that they had great variations in the evidence for the defence as to the position of the ringbone, and the stages at which it was, and also with regard to lameness. Three judges at Cathcart show saw no ringbone about the filly, and apart from his other witnesses he had the evidence that there was no ringbone from one of the best known experts in the country, Principal M'Call. He referred to the point to which Mr. Irving had called attention, with regard to the date of Mr. Robb's certificate, and said that Mr. Watson was in the neighbourhood on that day, 4th July, when the examination was made.

The Sheriff: I am not troubling much about that. He knew he was going to get it.

Mr. Haining held that in the whole circumstances defender had failed to discharge the onus which was placed upon him, to prove that there was ringbone about the filly.

The Sheriff took the case to *avizandum*.

INTERLOCUTOR.

The Sheriff-Substitute, having considered the proofs and whole process after a debate thereon, finds (1) that the defender, wishing to purchase a filly for breeding purposes, offered on 20th June, 1911, to buy from the pursuer a filly named Sweet Bloom for the sum of £100, on condition that the pursuer gave a guarantee of sound-

ness in every respect; (2) that after repeated letters of request, the defender ultimately received such guarantee on 30th June, 1911, and in consequence wrote the pursuer to send on the filly; (3) that the filly Sweet Bloom was duly consigned and delivered to defender on 3rd July, 1911; and (4) that on same day, 3rd July, the filly on being examined was found to be suffering from ringbone on both fore feet, and to be unsound. Finds that the defender having purchased the filly from the pursuer on an express guarantee of soundness, the defender was entitled to reject her; therefore sustains the pleas-in-law stated for the defender; assolizises him from the conclusions of the action, and decerns. Finds the defender entitled to expenses; allows an account thereof to be given in, and remits the same when lodged to the auditor of court to tax and report.

GEO. CAMPION.

NOTE.—This action is brought to recover payment of the price of a filly, Sweet Bloom, said to have been sold by the pursuer to the defender on or about 20th June, 1911. The defence is that the filly was warranted sound, but upon veterinary examination was found to be suffering from ringbone on both fore feet, and so to be unsound and disconform to warranty.

In answer to a letter from pursuer of 19th June that he had a good mare and two two-year old fillies, the defender, who wished to purchase a filly for breeding purposes, went to the pursuer's farm on 20th June. He was there shown a two-year old filly named Sweet Bloom, the price of which was settled at the railway station before the defender left to be £100.

On 21st June the defender wrote to the pursuer to confirm his offer of £100 for the filly, "on the understanding that you guarantee her sound in every respect. It is to be noted that in the pursuer's letter of 19th June to defender there is an unmistakable guarantee of the mare "as thoroughly sound and correct in every way," but the guarantee letter is so framed as not to cover the fillies. In reply to further letters of 23rd, 26th, and 28th June, that unless the pursuer confirms the guarantee of soundness the transaction is off, the defender is put off with the answer that Sweet Bloom is sound and her price is £100. It is only when the defender writes on 28th June that "you either cannot or will not do so," and the pursuer replies on 29th June: "I have guaranteed her sound and correct in every respect," that the defender is satisfied and orders the filly to be sent on.

It is immaterial for this action whether the verbal assurance made at the farm, and repeated in pursuer's letters of 27th and 28th June, that "Sweet Bloom is sound," would be held as a guarantee or as a mere expression of opinion. The defender declined to accept as a sufficient guarantee. It is clear he was pressing for such a guarantee, for instance, as the pursuer had volunteered of the mare in his first letter of 19th June, and not till he gets such a guarantee is he prepared to conclude the bargain. The filly is accordingly sent on to Albany Bank on 3rd July, when the defender saw her within a few minutes of her arrival, and upon examination says he found enlargement round each fore coronet, the defect being quite evident. He at once called in Mr. McIntosh, the consulting veterinary surgeon for the county of Dumfries, who after making a special examination of the two fore pasterns gives the certificate No. 102 of process, that the filly is unsound from ringbone in both fore feet. Ringbone of that size, Mr. McIntosh tells us, could not have been there less than two months.

Ringbone is held to constitute unsoundness, so if this certificate is correct, the defender having purchased only after a guarantee of soundness, is entitled to reject her. This the defender did by letter of 3rd July, returning her to the pursuer on the following day, and on 4th July received from Mr. Watson, writer, Glasgow, infor-

mation that the filly had been placed in the custody of Messrs. Shand, livery stable keepers, Langside, and, further, that he holds the "certificate of two eminently qualified veterinary surgeons, viz., Prof. McCall and Mr. Andrew Robb, F.R.C.V.S., regarding their examination of said filly," which are to be used to disprove the certificate of Mr. McIntosh.

Prof. McCall's certificate, it is to be noted, is of 1st July, 1911, before any question had been raised as to the unsoundness of the filly, and on the Saturday before the Monday she was sent off.

On 12th July the defender, in company with Principal Dewar and Mr. McIntosh, saw the filly in the livery stables at Langside, when she was in the same condition as when examined at Albany Bank. This opinion is confirmed by the certificate of Principal Dewar, No. 104 of process, to the effect, "she has ringbone on each fore pastern, a splint on the near fore leg, is lame on the off fore, and unsound."

On 15th July the defender, in company with Mr. Spruell, saw the filly at the same place, but to find her in the same state as before. And, again, the defender examined and found her in the same state when he was, by arrangement between parties, sold at Lunark on 28th August. The filly was then sold to Mr. Lorimer, Callands House, West Linton, where she was on 30th September visited by the defender in company with Mr. McCallum, V.S., and Mr. Storie, V.S. This is a surprise visit, when the filly is found in a loose-box wearing a cradle to prevent her getting at her feet, which Mr. Lorimer explains are being blistered to improve the hair, and on being trotted out is found decidedly lame.

All the witnesses adduced for the defender most definitely support defender's contention and Mr. McIntosh's original conclusion that the filly is suffering from ringbone on each fore pastern, and is lame on the off fore. The question arises then, is it possible to confuse ringbone with anything else, or anything else with ringbone? Mr. McIntosh is clear, and no one who knows his business would do so. Principal Dewar says ringbone or the symptoms could not be confused with any other disease by a man who knows his business at all; Mr. Spruell, that it could not be mistaken for any other complaint that he knows of; Mr. Baird, that the symptoms could not be mistaken for those of any other disease; Mr. Macfarlane that the same symptoms are not found in a sound animal; Mr. McCallum, that "the symptoms of ringbone cannot be mistaken for any other disease, or for any natural enlargement of the bone"; and Mr. Storie that "these symptoms could not have been mistaken for any other disease; they could not be confused with natural formations or large articulations."

Ringbone is admittedly a somewhat rare complaint in an animal of the age of this filly, and we have a volume of evidence in support of the pursuer's contention that the filly exhibits no trace of ringbone. A dozen witnesses who have examined her testify that in their opinion the filly is sound. I have most carefully studied their evidence, and can only say I do not profess to account for evidence so absolutely contradictory of that led for the defender. One can only surmise that there must be ways and ways of looking for symptoms of ringbone; some ways being better than others to disclose the feature. But whatever the explanation, having given the whole case the most careful consideration, I prefer the direct positive evidence adduced for the defender to the negative, and to a certain extent speculative, professional evidence on the other side.

Then, too, the surrounding circumstances of the transaction, from the commencement, appear to me to support the defender's contention. The letter of 19th, so framed as to exclude the fillies from the unqualified guarantee given to the mare; the pursuer's persistent

reluctance to furnish the defender with the guarantee he was obviously asking for; the apparently uncalled-for veterinary examination of the filly on 1st July, before there was any question of unsoundness raised. The pursuer would account for this by saying he thought the defender wanted to be out of the "deal." I see no grounds for such a suggestion, and we have before us all the pursuer had, that is the correspondence between the parties after 20th June. The defender was evidently going to trouble and expense to get the filly he wanted, but was determined to have an undeniable guarantee of soundness as he was paying what he calls a "sound" price. All this inclines one to question whether the pursuer, who describes himself as a "competent judge of horseflesh," with 41 years' experience, did not entertain some suspicion in his own mind whether he was in a position to give the filly the same unqualified guarantee he was ready to give to the mare. Further, when the defender pays his surprise visit to Callands House in company with Mr. McCallum and Mr. Storie, whether to stimulate growth of hair or not, the filly is found being doctored for something, and when trotted out to be decidedly lame. On the whole case I am of opinion that the defender has proved that the filly was suffering from ringbone when sold to him, and that he was therefore entitled to reject her as unsound. (Intd.) G. C.

—*Dumfries and Galloway Saturday Standard*

Donations to the R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donations to the College funds, from Messrs.:

J. H. Carter, Burnley	£1 1 0
J. Peddie, Dundee	1 1 0
Amount acknowledged last week	1 1 0
	£3 3 0

College Crest Defence Fund.

Amount already acknowledged, Nov. 4	£38 4 6
Yorkshire V.M.S.	2 2 0
Scottish Metropolitan V.M.S.	1 1 0
Mr. E. H. Leach	1 1 0
H. Morphey	1 1 0
James A. Gosling (2nd donation)	1 1 0
Mark Tailby	1 1 0
Alfred Over	1 1 0
C. E. Harwood	1 1 0
H. Blount Nixon	10 6
Joseph H. Carter	10 6
J. A. Hodgman	10 0
F. Tonar	5 0
	£49 9 6

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Royal Vet. Coll., Camden Town, N.W.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,
WAR OFFICE, WHITEHALL, Nov. 24.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. L. L. Dixon to be Capt., with precedence next below Capt. T. Bone. Dated Sept. 5.

Lient. H. S. Woods resigns his commission. Dated Nov. 25.

OBITUARY.

ISAAC JAMES, M.R.C.V.S., Corsham, Wilts.

Graduated, Lond : April, 1866.

The death on Tuesday morning of Mr. Isaac James, of Pickwick Road, threw the whole village into mourning, for the late Mr. James had during his stay in Corsham made himself generally respected. Besides being Coroner for the last 12 months, he held office of Inspector of contagious diseases. On Tuesday evening it was the painful duty of the new Coroner for Corsham (Mr. W. H. Beszant), elected but two hours before, to conduct an inquiry into the circumstances of the death.

Before the inquiry was opened Mr. Barrett, on behalf of the Steward of the Manor, who much regretted his inability to be present, expressed on behalf of the Court of Leet and Baron how much they regretted the sad loss which the parish had sustained by the death of the late Coroner and the deepest sympathy of the Court with the family in their bereavement.

The Coroner also made a feeling allusion to the loss which the parish had sustained, and expressed sympathy with the bereaved family.

Miss Rose James, a daughter of the deceased, gave evidence of identification, and said after breakfast on the previous morning her father went into the yard. Later in the morning she went into a loft over the stables, and there she found him sitting down in the straw. She thought he was dead, and immediately called her sister, Dr. Wood being sent for. Her father had not been well since he was hurt by a cow a fortnight ago, but previous to this he had been in good health. Her father had since the accident been having sleepless nights, and no doubt the sleeplessness from which he suffered made him very nervous. When she found her father in this condition she gave him some brandy to revive him, but it was of no use.

Dr. A. G. Wood, of Corsham, said that at 9.45 on the previous morning he was sent for to see Mr. James. He found him in the loft, and life was extinct. The body was still warm, and the breath smelt of spirits. He concluded from the coldness of the morning that death must have ensued shortly before. Mr. James had been under his care for about a fortnight. He had a very severe blow in the mouth from a cow. The blow cut his mouth, knocked one tooth out, and broke another. About 18 or 20 years ago Mr. James had a very severe attack of neurasthenia, and the result of this blow was to upset his nervous system again, bringing on the usual symptoms—irritability of temper, extreme nervousness, and want of sleep extending over a long period. Owing to these symptoms he searched Mr. James' pockets but found nothing there. He then had the body removed into the house and made a search in the straw.

Just where his hand would have been, said Dr. Wood, he found a bottle labelled "Prussic acid." The bottle was one which contained an ounce, and a fatal dose would be two teaspoonfuls. Death would ensue in from two to ten minutes. The bottle smelt strongly of prussic acid, and he believed the cause of death was owing to the effects of prussic acid. Suffering as he was, Mr. James was certainly not responsible for his actions. Worn out by sleepless nights, he had lost control of himself, and was therefore temporarily insane. The bottle had evidently come from a wholesale house, and the poison was evidently used by the deceased in the pursuit of his occupation as a veterinary surgeon. The bottle would hold about seven or eight teaspoonfuls of prussic acid, and there was only half a teaspoonful left in the bottle.

The jury returned a verdict of "Suicide during a temporary derangement of the mind."—*Bath and Wilts Chronicle*.

The late Mr. W. T. Sabin, M.R.C.V.S.

We are indebted to Mr. C. J. Reakes for the following note:—

"It is with the deepest regret that the death of Mr. W. T. Sabin, M.R.C.V.S., Veterinary Supervisor for the Southland District of New Zealand is chronicled. Mr. Sabin contracted pneumonia, and succumbed after an illness lasting some three weeks. The deceased gentleman joined the Department of Agriculture in October, 1904, having previously been for several years engaged in private practice at Hastings, Hawke's Bay. He was a most capable and trustworthy officer, well versed in his profession, and he did a great amount of valuable and effective work in a quiet and unostentatious manner. His death is a severe loss to the Department.

Mr. Sabin studied at the London Veterinary College, graduating in 1870. On entering the Government service he was first appointed to Ashburton as Veterinary Inspector at the Canterbury Frozen Meat Company's Freezing Works, and in January, 1905, was transferred to Pareora as Veterinary Inspector at the same Company's works there, about a year later being transferred to Invercargill, where he subsequently held the position of Veterinary Supervisor for the Southland district until the date of his death.

The death occurred at Invercargill on Wednesday Oct. 11, of Mr. William Thomas Sabin, at the age of 61 years. Deceased was born at Oxford (England) and came to New Zealand in 1886, where he had followed the profession of veterinarian until his death. He first settled in Otane (Hawke's Bay), where he was in private practice for five years, when he removed to Hastings, remaining in that district for some seven years. He then joined the Stock Department, and for the past six years had been Government Veterinarian and Meat Inspector for the Southland district.

Mr. Sabin was in his usual health until three weeks ago, when he caught a chill, and on medical advice became a patient in a private hospital, a bad attack of pneumonia having supervened. His condition became serious, but a week ago there was hope that he would pull through. Complications, however, followed, and death occurred.

Deceased was one of the most valued members of the veterinary profession in New Zealand, and at the time of the outbreak of black-quarter amongst calves in the Taranaki district, to him was entrusted the responsibility of inquiring into the matter. Mr. Sabin was of a reserved disposition, so did not make many acquaintances, but his generous nature and other good qualities won for him the high esteem of those with whom he came in contact. An enthusiastic angler, deceased occupied a good deal of his leisure at this popular pastime, and having made a close and intelligent study of the habits of trout, his conversation on the subject was always interesting and instructive. Deceased leaves four sisters and two brothers, all of whom reside in Hawke's Bay. Of the latter, one is Mr. C. S. Sabin, farmer, Onga Onga, and the other Mr. A. J. Sabin, builder.—*The Southland News*.

To the Editor of *The Veterinary Record*.

Mr. Sabin died of septic pneumonia on Oct. 11th. There may be members of the profession in the old country who remember him. I only knew him a few months, and regret his sudden death; he was a man worth knowing; he took a deep interest in everything pertaining to his profession, and although not in private practice, read much, and kept himself well abreast of the times. The funeral was attended by Mr. Edwards, M.R.C.V.S., Mr. Waugh, M.R.C.V.S., and myself.—Yours truly,

JOHN MILLER, M.R.C.V.S.

[Mr. Sabin was a subscriber to *The Record* since January, 1891, and both Editor and Publishers are indebted to him for welcome words of encouragement and appreciation over a number of years].

The late Capt. B. H. Lane, A.V.C.

By the death of Capt. B. H. Lane, A.V.C., who died on Sunday, Nov. 5th, from injuries received while riding in the Calcutta Turf Club Chase at Meerut on the previous Thursday, the Army Veterinary Corps loses one of the most popular officers it has ever possessed. Probably no officer was better known or more respected throughout the whole of Northern India. He was always good company, a sincere friend, and a most honourable sportsman. Whether on the racecourse, the polo ground, or in the boxing ring, Capt. Lane could always manage to hold more than his own, and at the same time be on the very best of terms with one and all of his opponents. The deceased officer's skill in the saddle was phenomenal, and many will remember how, when riding "Leading Lady" in a steeplechase at Rawalpindi last January, his mount turned a complete somersault on landing over one of the jumps, but Lane was in the saddle before the mare was able to rise, went in pursuit of the others, and eventually won the race amidst the acclamations of the spectators and bookmakers. Though his winning meant loss to the latter, they could not refrain from applauding the pluck, determination, and skill shown by the gallant rider. To give another instance of his remarkable horsemanship, he had just a few weeks before that, in consequence of his girths slipping back, won a mile and a half hurdle race carrying his saddle and a stone of lead in weight cloths in his left hand. Nowhere in India will the loss of the deceased officer be more felt than in Rawalpindi, where he was for some time stationed, and where he was extremely popular. Particularly will his untimely death be felt by the officers of the 10th Royal Hussars. The deceased officer had only completed seven years of service, and had not yet reached the age of thirty. It is one of the ironies of fate that his tour of Indian service would have expired in January.—*Civil and Military Gazette*, Lahore.

A correspondent adds:—"Capt. Lane was picked up insensible after a heavy fall and never recovered consciousness."

CORRESPONDENCE.**GASTRIC AFFECTIONS OF RUMINANTS.**

Sir,

The first quarter of Mr. Stewart's letter, which appeared in last week's *Veterinary Record* on the above subject, is interesting and reasonable, although, no doubt, many of your readers will not be able to agree with what the author says about the effect of salts on the chewing of the cud. These are Mr. Stewart's words:

"Large quantities of salts, when given to cattle, enter the rumen and mix with its contents. The taste of the salts is disagreeable to animals, and consequently they refuse to chew the cud, and the bolus is returned to the rumen without being masticated."

I can quite believe that Mr. Stewart has seen a bolus brought up from the rumen, and returned without being masticated. But when he says it is returned to the rumen I, for one, don't agree with him. Of course if Mr. Stewart has discovered or procured something by which he can faithfully follow the course of the returning bolus, then he is justified in making such a statement, but not without. If a bolus tasting of salts is returned to the rumen as he states, then by what process of reasoning does he arrive at the conclusion that a ball of aloes passes at once into the omasum. Further, what is the use of a physic ball passing into the omasum in a case of impaction of the rumen.

If a beast chews its cud alright, it is not likely to be the subject of gastric derangement, and the practice of giving a ball of aloes in such a case does not seem to me at all good or rational treatment. In gastric affections of cattle, as a rule, the process of "chewing the cud" is suspended, and this fact alone is one of our best guides to the seat of the trouble. In my experience the action of salts on cattle is neither violent nor drastic, as Mr. Stewart states. Suppose he was called to a case of acute tympany in a cow. He says that for such cases he now uses the probang only, and finds this greatly superior to the use of either the trochar or canula. I do not dispute this, but I should much prefer the quicker method, and the one which does not require two men to assist the operator, is just as effective, and is not attended with nearly so much risk.

Lastly, tympany means "tympany of the rumen" as a rule when applied to cattle, and if Mr. Stewart gives an eight or nine dram ball after he has passed the probang, and this ball "at once passes into the omasum" what can be the theory on which such a procedure is based.—Yours faithfully,

W. E. BLACKWELL, M.R.C.V.S.

Towcester, Northants.

VETERINARY SURGEONS AND MEAT INSPECTION

Sir,

I read with pleasure Principal M'Call's spirited letter to *The Scottish Farmer* in *The Record* the other week, and I hope more often to defend the academic attainments of the veterinary profession in future when the occasion arises. We have become so accustomed of late to the veterinary profession, probably from an over developed sense of modesty, underestimating these attainments, and fawning under the smile of every medical man, who, in all sincerity and with good intentions doubtless, but with a lamentable lack of knowledge of veterinary education, dons the mantle of the prophet, that some of us are getting somewhat sceptical of the usual prophetic advice, which can generally be summed up in a few words, viz., take a post-graduate course and you will obtain a great privilege, and to have serious doubts as to whether that privilege, which means the inspection of meat at £150 a year, can be called by that appellation.

Far be it from me to deprecate post-graduate instruction, but with Principal M'Call, I contend that a V.S. if he has graduated after 1895, from his training in pathology, bacteriology, and meat inspection, to say nothing of other subjects, is the best qualified person to give the best opinion on the morbid conditions of animals alive and dead. Recent graduates will readily admit that throughout their curriculum the above subjects were perhaps more thoroughly taught than any of the others, and will fail to recognise where the inducement lies for further training in subjects they have had a thorough grounding in.

If a layman, by taking a short course in meat inspection, can render himself capable of performing the duties pertaining to that occupation—and for ordinary inspection I fail to see why he cannot—surely an intelligent V.S., from his more extended studies, is much more proficient. It ought to be as plain as one of Euclid's axioms. Why then humiliate him by compelling him to take a meat inspector's certificate.

If veterinary surgeons aspired to positions such as agricultural analysts, biologists, entomologists, expert advisors in sanitary matters to Councils, and positions of eminence in agricultural science or pure science, one could quite understand their wishing to take the very necessary step of acquiring further and deeper knowledge in the subjects they wish to specialise by attending a course of instruction under leading experts, but when one sees them ready to bawl from the housetops that without a layman's certificate they are unable to perform the duties which are their birthright, one marvels but can quite understand the attitude of the public. We are taken over at our own valuation.

When many of the above positions at home and abroad, positions that lie eminently in the province of veterinary science, are filled by men who have taken a "two years'

course in agriculture, or a diploma in dairying, it is time for the profession to shake off this meat inspection mania, and expend its energies in striving to obtain something better than petty privileges such as the sticking of crests on the backs of envelopes.

The Royal College of Veterinary Surgeons will have to read the signs of the times and look a little way into futurity. The writing on the wall is getting plain enough. It does not require a big stretch of the imagination to see that, owing to the rapid development of our Colonies the scarcity of labour, and the development of motor power, the number of horses (our chief patients) in these islands in a few years will be able to be divided by two. England is rapidly becoming a grazing country, and her towns horseless.

Future education should be shaped accordingly to enable graduates to secure positions not only in the higher branches of preventative medicine and public health, but also in positions pertaining to agricultural and pure science. Fuller courses of instruction should be given in our schools on subjects such as foods and feeding stuffs, their analysis and adulteration, economic principles of feeding, breeds and breeding, ventilation, building construction and the principles of sanitation, insects and parasites injurious to plant and animal life on the farm, milk and dairy bacteriology, diseases of animals other than the horse should receive greater attention. Stable management, which at present costs the student about a month's mental anxiety before examination and commands the respect of two examiners, should be diffused throughout the curriculum, and the energies of these two adjudicators expended with a greater degree of educational profit on some of the above mentioned subjects. There lies a weak spot for the Council to start upon without incurring any additional expense.

If it is decreed that such innovations cannot be carried out, then let us have post-graduate courses of wide calibre in our Colleges, with arrangements with Agricultural Departments of Universities for the teaching of subjects bearing on the more agricultural problems; but we must bear in mind that many of our graduates go abroad and would be unable to avail themselves of such an arrangement, therefore fuller ante-graduate instruction is preferable, to give these men a sufficient ground work to enable them to keep up to date by the perusal of current literature, and to successfully hold their own against Colonial graduates.—Yours, etc.,

A GRADUATE SINCE 1895.

VETERINARY EVIDENCE.

Sir,

I read with a great deal of interest, in your issue of the 18th inst. the report of the "Horse Action at Dumfries." There is, to the ordinary practitioner, small cause of satisfaction in the reflection that some of our "leading lights" on one side or the other must be making mistakes as grievous as he himself can make. There are seven or eight veterinary surgeons, and some are eminent men, on either side, and I think all are very nearly sure they are quite right and those on the opposing side quite wrong. The first three witnesses for the defence are each reported as saying that any professional man who knows his "work," "profession," or "business" must have diagnosed as they did. The fourth witness says there is ringbone of the off fore coronet, half as large as a bantam's egg, and the fifth corroborates, and adds that the symptoms could not be mistaken for naturally large articulation of the joint. And upon the pursuer's side we get equally positive evidence. The first three witnesses are sure the animal is absolutely sound. Prof. McCall is sure there is no ringbone, and Principal M'Call that the filly has "very prominent processes" but no sign of disease. In view of such marked differences of professional opinion I think it is not much to be wondered at that so many stockowners are apt to think they know quite as much regarding domestic animals as the veterinary surgeon. It almost makes one believe that in some such cases a little clever "shuffling" is carried out, so that the witnesses on one side are shown a different (but of course similar) animal to that shown to the others.—I am,

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VETERINARIANS' REPORTS.

Pneumonia.

E. R. VOORHEES states in the *American Veterinary Review* that **Nuclein** has produced results which at times "seemed marvellous," and instances an apparently hopeless case of double pneumonia which recovered rapidly after the injection of **Nuclein**. Also see article by E. M. PERRY in *The Veterinary News* of Nov. 19, 1910, and by D. HANNAY in *The Veterinary Record*, Mar. 11, p. 589.

Fistula, Poll Evil, Septicæmia.

A report appears in *The Veterinary News* of Feb. 4, 1911 (p. 67), of the prompt improvement brought about by **Nuclein** in cases of fistula and poll evil which had failed to respond to other methods of treatment. A case of profound toxæmia in a dog which was greatly benefited by **Nuclein** is reported in *The Veterinary News* of Feb. 16, 1907 (p. 109).

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C. D. GRUBER writes in *Veterinary Notes*, Mar., 1908: "I am not afraid to undertake the treatment of the most severe case of influenza and its complications, also all respiratory diseases which are due to infection, provided I have a supply of **Nuclein Solution**."

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J. PEDDIE, F.R.C.V.S., reports as follows in *The Veterinary Journal* for December 1910: "I have, in all, treated 32 cases of distemper with the aid of **Nuclein**, and have had only four deaths, a percentage of recoveries I could not have hoped for with the treatment previously adopted.... The majority of cases have not been by any means mild ones, and I have not got them very early.... I am firmly of opinion that **nuclein** is a most valuable agent in the treatment of distemper."

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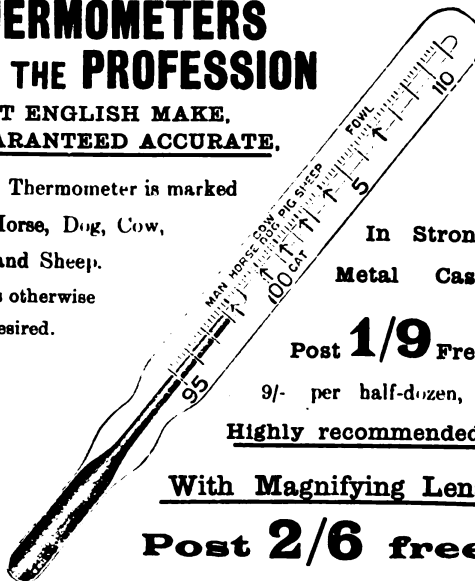
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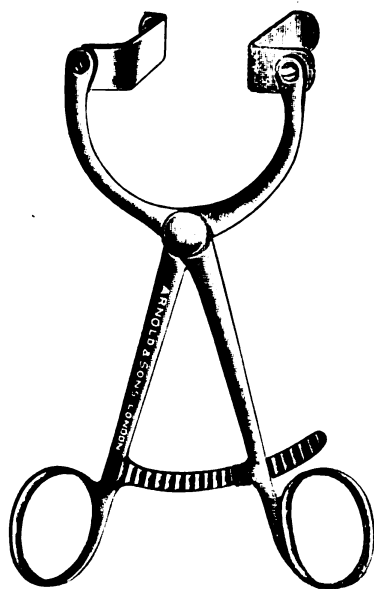
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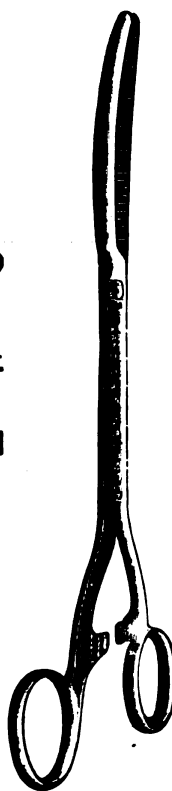


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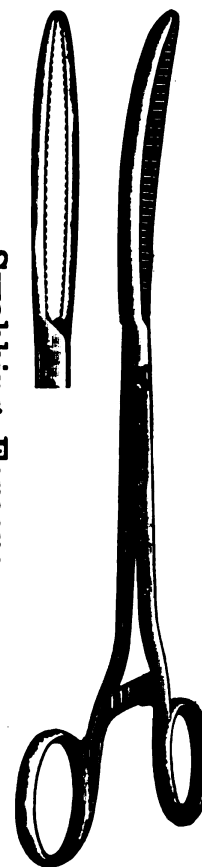


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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1222.

DECEMBER 9, 1911.

VOL. XXIV.

THE COAL MINES BILL.

The deputation from the R.C.V.S., whose conference with the Chief Inspector of Mines upon the Coal Mines Bill we publish to-day, was a small one, and had necessarily been very hurriedly convened. But it was composed of men peculiarly well fitted for the task they undertook, and one good result seems directly attributable to their influence. Not "a competent person," but a duly qualified veterinary surgeon is alone to be entrusted with the testing of horses for glanders before their descent into the mines. That amendment, which may mean much more to the public than it does to us, was accepted by the Government when the Bill was read a third time on Tuesday last; and it was the alteration most strongly urged by the deputation of November 30.

Great credit belongs to the R.C.V.S. for prompt action at short notice; and no less is due to some individual members of the profession. Of the five veterinary surgeons upon the deputation, four came from the north of England—three of these from very far north indeed—and only one is now upon the Council. The special knowledge of the others placed them upon the deputation; and we all owe them a debt of gratitude for the long journeys and loss of time they incurred in the service of the profession.

A CLINICAL MEETING.

Of late, practitioners in general have shown a welcome increase of interest in clinical records and discussions. This is evident from the contributions to professional journals, and perhaps even more so from the reports of our Societies. Several Societies now hold occasional "clinical meetings" with increasing success, but we do not remember one so successful and brimful of interest as that of the Midland Counties V.M.A., which we print this week.

This must be read to be appreciated, and all clinicians will find some portions well worth re-reading. It contains an abundant variety of clinical matter from town and country alike, all of it interesting, and some portions, as the discussion upon acorn poisoning, likely to be very helpful indeed to some of us. It has a further indirect educative value. It illustrates a truth upon which we have long insisted—that every member with an ordinary practice, if he adopts the habit of taking notes of his cases, can contribute not a little to our professional advancement.

A single clearly narrated clinical case is always interesting and instructive to some men. A series of such is often as valuable as almost any set paper, and always infinitely more so than a paper largely consisting of repetitions of text-books. That explains the deserved popularity of the "clinical meeting."

TRACHEAL PERCUSSION IN EQUINE PRACTICE.

At the time the foreign abstract under the above heading appeared in *The Veterinary Record* (Nov. 18th, p. 309), I thought that percussion of the trachea was quite a new diagnostic method, but I had not then read an article upon "Pneumonia and Pleurisy in the Horse," by Major-General (then Vet.-Major) Fred. Smith, which appeared in *The Journal of Comparative Pathology and Therapeutics* so long ago as 1897.

This paper is very largely concerned with the physical examination of the horse's chest in health and disease; and it contains a clear description of this method of simultaneous percussion of the trachea and auscultation of the chest wall. Smith prefers direct percussion with his fingers, while the Austrians use a pleximeter; that is the only real difference between them.

Smith alludes to the method under the heading of "bronchophony," which is a term employed by human physicians "to indicate the fact that the voice of the patient can be heard with undue distinctness through the chest wall." For this purpose Smith utilises, when it is available, the grunting sound which is often present in lung trouble, and says—"When the voice sound is produced by the patient grunting, the grunt may be heard over the chest wall as if it proceeded from immediately beneath the stethoscope. This is the characteristic feature of the sound; it appears to be produced in the portion of lung being examined, but of course agrees in time and sequence with the grunting, loud or suppressed, heard at the nostrils." A sentence or two later he says—"Bronchophony once heard can never be forgotten; it indicates lung consolidation, though it is often absent even when the lungs are quite solid." But when grunting is absent, Smith says that "we can artificially produce a sound in the trachea, which for all intents and purposes of diagnosis may be regarded as a voice sound produced by the animal itself." This he does "by tapping lightly on the exposed surface of the trachea high up in the neck. The tapping can be heard with the utmost distinctness, as if proceeding from under the instrument on the chest wall; to distinguish this form of bronchophony we may term it the "tracheal reflex."

Both these forms of bronchophony, Smith tells us, though indicative of lung consolidation, are often absent when that condition exists. The most probable explanation of this is that a patent condition of the bronchial tubes in the consolidated area is necessary for the production of the sound at the chest wall. Another somewhat allied sound, however, is seldom absent, viz., *pectoriloquy*. Smith

uses this term to denote the sound produced by swallowing, and heard at the chest wall by the stethoscope, of which he says—"The difference between it and bronchophony is that in the latter the sound seems to *pass away from under* the instrument, while in the former it appears to *pass up the instrument* with the most remarkable distinctness, so that if the person whispers each syllable is clearly heard." The latter portion of the sentence refers to human medicine, where a sound of this peculiar character is almost diagnostic of a cavity in the lung. Smith, however, says that a similar sound in the horse, produced by *swallowing*, is often heard in simple lung consolidation without abscess.

Smith's whole paper is worthy of most careful study from all who are concerned with equine respiratory disease. Like all this author's work, it is full of evidence of independent thinking and observation, and there is certainly very little in the English veterinary literature on this particular subject of which the same can be said.

One practical hint the paper contains may be mentioned, as I have not seen it elsewhere, and the author describes it as "one of the most valuable aids in the diagnosis of lung trouble of which I am aware." It describes the induction of a deep respiration in the horse, which Smith effects by completely closing the nostrils with one hand till the horse evidently requires air, when a deep breath will generally follow the removal of the hand. This requires some practice, as, if the nostrils are kept closed too long, coughing instead of deep inspiration results; but its discovery brings the auscultation of the equine lung much nearer that of the human one.

My present object, however, is to indicate the date at which tracheal percussion was known and practised in England. Smith was certainly practising it in 1897, and this suggests a question of priority which I cannot settle. I have never seen either of the two original articles by Wirth and Babor respectively, which supplied materials for my note. Both appeared in an Austrian veterinary journal (*Oesterreich Monatschrift f. Tierheilkunde*) last year, and I saw only summarised abstracts of them in a German one (*Berliner Tierärztliche Wochenschrift*) a few weeks ago. One of these states that Schindelka introduced tracheal percussion at the Vienna School "a few years ago," but it is not stated whether Schindelka has ever written upon the method, and the word by which "a few" is rendered in the Berlin journal is a vague one, viz., *etliche*, which means "some, several, a few, any," scarcely suggesting a period so far back as 1897. Still, it is not clear how or when Schindelka first arrived at this method of tracheal percussion; though, as he is an original worker who is well known to have given considerable attention to physical methods of diagnosis in veterinary practice, it is very probable that he devised it himself quite independently. But it is clear that an English veterinarian described the same method from his own experience, and was using it for the same purpose of detecting lung consolidation, fully fourteen years ago.

W. R. C.

FIBROLYSIN.

On July 14th, 1909, a valuable Hackney pony mare was sent to me from Jersey for treatment. She had received an injury to one of the hind fetlocks; it was much enlarged, was discharging pus, and there was considerable lameness.

I understood that the mare had been under treatment in the Island, and that the joint had been blistered twice. I put her down and opened up the sinuses, curretted them, and plugged them with Chloride of zinc in the stick form. Within a week the discharge of pus had ceased, but the enlargement was as big as ever, so I decided to try Fibrolysin.

I gave her nine injections altogether, at intervals of one day for the first five, and two days for the remaining four. Each injection was made in the gluteal muscles, the syringe being rinsed out with a weak solution of carbolic acid, but not the seat of the inoculation.

There was never the slightest swelling or any sign of constitutional disturbance, and at the end of the injections no one could have discovered where any single one had been made.

The joint gradually got smaller, and the mare sounder. I made careful measurements, and found a reduction of as nearly as possible one quarter of an inch every three days, the total reduction in circumference at the end of the treatment being two inches.

I had to keep the mare for some months after I finished treating her, and drove her regularly, and she returned to Jersey on December 21st perfectly sound.

I used no other treatment after the first plugging with the Chloride of zinc, and must therefore attribute some measure of success to the Fibrolysin, and am quite at a loss to account for "Enquirer's" unfortunate experience.

GERALD BLOXSOME, M.R.C.V.S.

Hove.

TWO CASES OF NECRO-BACILLOSIS.

In response to Mr. Gray's invitation, may I be permitted to record my small experience on the disease he so ably describes "Necro-bacillosis in the dog and cat?"

Case I.—On the 31st of May last year I was called to examine an aged Airedale terrier belonging to one of my clients. The animal was very lame in the near fore limb, which he frequently carried. On examination of the affected paw, the whole foot was found to be intensely inflamed and swollen, the swelling in fact extending half way up to the carpus was hard, and did not pit on pressure, the most severe lesions, however, were between the digits, the skin here was red, thickened and destitute of hair, and its surface was covered with pin head areas of serum-like fluid. The pad was much enlarged, probably half again its normal size, but not very sensitive, and showed no signs of slough-

ing or gangrene. In the course of a few days pustules about three-quarters of an inch long and a quarter inch deep, began to rise between the claws, which on being lanced exuded dark coloured, bloody pus, in which were freely mingled particles of necrosed tissue. The resulting wounds showed no tendency to immediate repair, and would allow a fine probe to be inserted nearly three-quarters of an inch between the skin and bones of the middle digits. The intermediate connective tissue having been broken down, no doubt by the agency of Löffler's bacillus, and eliminated in the discharge, thus forming the small fistulæ. The dog meanwhile maintained his usual health, the disease remained strictly confined to the left foot. Unfortunately no bacteriological examination was made.

Treatment.—Kept chained upon clean straw and fed on a liberal but digestible diet; at first medicated poultices and foot baths; slit up fistulæ and opened abscesses, mild caustics and free use of strong antiseptics. Unfortunately Bier's treatment was not tried, although it would have been an ideal case for that method. Internally large doses of quinine and iron. Cure complete in about five weeks, since when dog has remained healthy.

Case II.—Two-year-old male cat, moderate condition. Large necrotic area on face, size of a five shilling piece, skin hard, dry, and parchment-like, much under-run in centre but firmly adherent to healthy tissue round periphery. The surface showed several pinhead-like holes scattered throughout, giving it a sieve-like appearance, emitting dark thin pus; probably previous history of scratch on cheek.

Treatment.—Complete excision of diseased skin, and usual treatment of a poisoned wound, was followed by rapid complete recovery.

No doubt both these were cases of mixed infection, but I am led to think that Löffler's bacillus was the principal cause of the mischief in both cases.

W. WALKER, M.R.C.V.S.

Harrogate.

ABSTRACTS FROM FOREIGN JOURNALS

FRACTURE OF THE STYLO-HYOID BONE IN THE HORSE.

Desider Szathmary relates (*Allatorvosi Lapok*) a case of this unusual injury in a three-year-old mare. A smith attempted to rasp the molars; the animal struggled, struck her head against an iron ring, and since that time bled from the mouth, while her tongue hung out.

By the aid of Bayer's mouth wedge, several lacerated wounds were found upon the ventral surface of the tongue.

When drinking, the animal showed difficulty in swallowing; and the laryngeal region was very sensitive, especially upon the left side. The author now introduced his hand into the mouth, and demonstrated the existence of crepitation in the neigh-

bourhood of the palate upon the left side. This indicated fracture of the stylo-hyoid bone.

Treatment consisted in the application of Priessnitz poultices upon the laryngeal region, an alum mouth wash, and sloppy diet. In five weeks the animal recovered, she could take food without difficulty, and only by very attentive examination could it be noticed that the left half of the tongue appeared somewhat atrophied.

The author remarks that the fracture was most probably not a complete one; and, as it remained covered, the circumstances favoured an aseptic union by means of the formation of a callus. —(*Berl. Tier. Woch.*)

THE REACTION OF THE URINE OF THE DOMESTIC MAMMALS.

Hans Müller, of Kandern, has been carrying out researches upon this subject. His conclusions vary considerably from those generally accepted, and are summarised as follows:—

1. An acid reaction of the urine of carnivora is not so frequently met as has hitherto been supposed.

2. The urine of fasting carnivora is not characterised by an acid reaction.

3. The urine of carnivora assumes no constant alkaline reaction as a result of vegetable food.

4. No constant acid reaction appears in carnivorous animals upon a purely flesh diet. The reaction of the urine of carnivora is therefore not exclusively dependent upon the diet.

5. The reaction of the urine of herbivora is more easily influenced by variations in the food than that of carnivora.

6. In cystitis the urine of carnivora most frequently has an alkaline reaction.

7. As a rule the urine of herbivora has an acid reaction in severe affections of the digestive tract, and in severe pharyngitis, pneumonia, and muscular rheumatism. A catarrhal affection of the small intestine is especially likely to cause acidity of the urine. —(*Berliner Tier. Woch.*)

CURETTAGE OF THE BLADDER IN CYSTITIS.

Pasquale di Paola, of Carinola, reports (*Il Nuovo Ercolani*) that he has attempted this therapeutic measure (which was first adopted by Cumston in the case of human beings) upon dogs, and with surprising results. He recommends it particularly in obstinate cases of purulent cystitis which resist every other treatment.

The operation is performed through an abdominal incision in the median line, under narcosis. After the abdominal cavity is opened, the bladder is drawn out, covered with sterile gauze, and such urine as remains in it after previous catheterisation is expelled by light pressure directed from the fundus to the neck. The bladder is next thoroughly washed out with 3% boric acid solution. An incision of from 4-5th inch to 1 1-5th inch long is then made upon the under surface of the bladder, a sharp spoon (the author uses Recamier's model) is introduced through this, and the diseased mucous membrane is curetted—first the upper, then the

under, and finally the portion at the neck of the bladder. During the operation, and also afterwards, thorough rinsing with physiological saline solution is necessary to remove all *débris* and possible blood-clots. Hæmorrhage should be allayed by 4% antipyrin or concentrated ferripyrin solution. The vesical wound is stitched with catgut, and the peritoneum, muscles, and external skin with silk. When all requisite aseptic and antiseptic precautions are carefully observed, neither a rise of temperature nor any other unfavourable complication need be feared.

The author operated in this manner upon six dogs, in which he had artificially induced severe cystitis by irritation with purulent secretions and putrid materials. In all six cases he obtained complete recovery within periods of time ranging from 8 to 20 days,—(*Berliner Tier. Woch.*)

W. R. C.

[The fact that these cases were all artificially induced somewhat weakens the author's conclusions. Possibly the operation may prove of value as a last resort.—TRANSL.]

Royal College of Veterinary Surgeons.

FELLOWSHIP EXAMINATION.

A meeting of the Board of Examiners for this Degree was held at the College, 10 Red Lion Square, W.C., on Saturday, December 2nd. The following is a list of the successful candidates with the title of their respective Thesis:—

- R. L. PHILLIPS, "The Clinical Aspect of Infectious Pneumonia in the Horse."
A. F. CASTLE, "Sterility in the Mare."
F. J. DUNNING, "East Coast Fever, particularly as applied to South Africa (Rhodesian Redwater, or African Coast Fever)"

COAL MINES BILL.

On Thursday, November 30th, a Deputation from the Royal College of Veterinary Surgeons attended at the Home Office, in order to lay before the Chief Inspector of Mines the views of the Veterinary Profession with regard to the Clauses of the above Bill dealing with the inspection of animals in mines. The Deputation had to be very hurriedly formed, for the clauses in question had been inserted in the Bill during its passage through Committee, and the information only reached the College when the Bill was already at the Report stage. The Council was represented by Mr. F. W. Garnett, Chairman of the Parliamentary Committee, and there were also present Mr. W. Hunting, ex-President, Mr. G. Elphick, Newcastle-on-Tyne, Mr. H. Peele, Durham, Mr. W. Woods, Wigan, together with the Solicitor and Secretary of the College.

Mr. GARNETT in opening the case stated that several of the members of the Deputation were experts with regard to the inspection of animals in mines and on the testing of animals for glanders.

Section 109, Sub-Section 3 of the Bill was read, as follows:—

"The Secretary of State may appoint any fit persons to be special inspectors for the purpose of examining into the care and treatment of horses and other animals used in mines and of enforcing the provisions of this Act relating to horses and other animals, and any person appointed as a special inspector under this provision shall so far as necessary for the exercise of his powers and the performance of his duties as such inspector have the same powers as are given to and be subject to the same obligations and restrictions as inspectors of mines under the foregoing provisions of this act."

That Section, Mr. Garnett pointed out, had no doubt been drafted on Section 10 of the Third Report of the Royal Commission on Mines which runs as follows:—

".....periodical inspection should be made, once at least every six months, of every horse in every mine where there are more than 20 horses by a duly qualified Veterinary Surgeon; or, where there are less, by some person appointed in writing for that purpose; such surgeon or other person to be approved by the Inspector of Mines. Such Veterinary Surgeon or other person should examine the horses, and also the books kept by the horsekeepers and sign the same on each occasion on which he visits the mine. He should also be required to report to the management any regularities or breaches of the Act that come under his notice, and to make an entry of them in the afore-said book."

We have a high opinion of the veterinary profession and we believe that if entrusted with these duties they would perform them conscientiously and well....

Mr. GARNETT continuing, said that they submitted that the only competent man who could give an unbiased opinion under such a section as 109 (3) was a fully qualified Veterinary Surgeon. The inspection required dealt with harness and sanitation, sores, general health and upkeep of the horses, and was also to be a check on the horsekeeper. They suggested that the words "fit person" in the section should be altered to "fully qualified Veterinary Surgeon".

Passing on to the Third Schedule of the Bill, Mr. Garnett referred to the first Clause which reads:

1. No horse shall be taken underground until it is four years old and until it has been tested by a competent person with the prescribed test and certified to be free from glanders."

The words "competent person" require to be altered. Only qualified Veterinary Surgeons could be said to be the "competent person" to perform the test, and it was also desirable that the test should be specified as the Mallein Test. That only Veterinary Surgeons should be employed for such purpose was a principle recognised by all bodies having the control of animals, e.g., the London County Council, the Board of Agriculture, etc. The test was a most delicate one, depending for its diagnostic value upon a knowledge and appreciation of the bodily health of the animal at the time of testing and the conditions under which the animal was living. There was the local reaction to be observed and the thermal reaction. They strongly submitted that these serum tests could only be effectively applied by fully qualified men.

Mr. HUNTING said he supposed it was not necessary to insist on the importance of keeping glanders out of the mines. It was dangerous not only to the animals but also to human beings. He had heard it said that there are only two or three deaths per annum from glanders, but the medical profession had recently found that a proportion of glanders cases were not properly diagnosed as such. There were probably 20 or 30 deaths from glanders per annum, making a very serious addition to the list of preventable diseases. He also emphasised the point as to the difficulty of taking the mallein test. In London twenty or thirty thousand horses had been tested

with mallein by expert Inspectors, Veterinary Surgeons. Even they had made mistakes in fifteen instances. In reply to a question by the Chief Inspector, Mr. Hunting described the method of taking the test, and urged that a horsekeeper could most certainly not be said to be a competent person to administer the test.

Mr. PEELE pointed out that the sale of mallein and of hypodermic syringes was absolutely uncontrolled. Anyone could buy them, and it was within the power of anyone to get a vague idea of how to apply the test and what to look for. But a man with half knowledge was liable, nay almost bound, to get a false result. Even supposing that the wording of the Schedule were left as it was, and that an incompetent person took the test and got what he considered to be a reaction, he would be bound under the Glanders Order to report the matter, with the result that the Veterinary Inspector would have to be called in and the whole process gone over again. This would cause unnecessary pain to the animal, and danger both to the horses and to human beings.

Mr. Woods expressed the opinion that it would be a useful thing in the first instance to describe the necessary test in the Schedule as the Mallein test. There were two other tests which were considered to be good tests by bacteriologists, but which were impracticable except in a bacteriological laboratory. He described the mallein test and emphasised the importance of it being carried out by properly qualified persons. It was essential that the words "Competent person" in the first Clause should be defined, as a definition of these same words was given later on as "Horsekeeper."

There was another important point. They might now have glanders down the pits. There was an immense number of Russian ponies used down collieries in this country, and Russia was a hotbed of glanders. It was quite possible there was glanders in the pits at the present time in a latent stage which might go on for months. The tested ponies might therefore be sent down into an infected place. It was necessary if the Act was to be effective that the whole of the ponies at present in the pits should be tested.

Mr. REDMAYNE, the Chief Inspector, stated that with regard to the mallein test, the Clause spoke of the "Prescribed" test which he held to mean "Prescribed" by the Secretary of State, and he did not hesitate to say that the Secretary of State would follow the best advice and that the test he would prescribe would be the mallein test, failing the discovery of a better. He thought the views of the deputation on that point were met in that way. With regard to the "competent person" he saw the point of the deputation that the words should be defined. As it was, however, if an incompetent person were employed and any accident ensued, then the managers or whoever else allowed that incompetent person to be employed, would have committed a breach of the Act.

The SOLICITOR pointed out that it would be better to define the words. There would then be no such difficulty.

The CHIEF INSPECTOR said he quite agreed that the words competent person did not necessarily mean a professional man, and he would certainly put the views of the deputation forward. He could not say more or less.

Mr. ELPHICK endorsed what had been said by the other members. He pointed out that in the Army, Farrier-Sergeants or Farrier-Majors were not allowed to apply the test, though they had been specially trained to look after horses. Veterinary surgeons were always employed. He also contended that no ponies should be allowed to go down the pit until they were thoroughly trained. They should be kept at least 14 days isolated and trained. This would prevent many accidents happening.

The CHIEF INSPECTOR said that he had made a careful note of all points raised and he would put them before the Secretary of State and Mr. Masterman who was in charge of the Bill. He would put their arguments as well as he was able, and of course their opinion on a matter like this was of very great value. As to the mallein test they could rest assured that the test prescribed would be the mallein test until some other better test was found. He would put the arguments in favour of specifying who was a "competent person." He could not say whether or not the Secretary of State would accept that.

The deputation then withdrew.

MIDLAND COUNTIES' VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the G and Hotel Leicester, on Thursday, Nov. 9th, the President, Mr. H. L. Pemberton, of Bridgnorth, occupying the chair. There were also present: Messrs. Evershed, Nottingham; F. J. Taylor, Moseley; E. W. Parkes, T. Bainbridge, Wellingborough; D. Forwell, Towcester; W. E. Ison, Atherstone; T. G. Parr, T. H. Ho son, Leicester; W. T. Brookes, Warwick; H. Yeomans, Kidderminster; H. S. Reynolds, Daventry; R. H. Over, Rugby; W. N. Thompson, Derby; F. L. Goch, Stamford; J. A. Gold, Redditch; J. J. Burchnall, Barrow-on-Soar; W. H. Brooke, Handsworth; R. H. Phillips, Loughborough; and the Hon. Secretary, Mr. H. J. Dawes, of West Bromwich.

Apologies for unavoidable absence were received from the following: Sir John McFadyen, Profs. McCall, Hobday, Macqueen, Dewar, Dr. Manley, Dr. Gilbert Barling; Messrs. R. C. Trigger, J. W. Coe, F. W. Barling, E. Woodcock, T. Chambers, W. Blunsom, C. M. Barton, E. Ringer, O. Hills, John Blakeway, James Blakeway, J. R. Carless, J. Deville, W. Grasby, S. M. Woodward, Brennan DeVine, John Malcolm, R. Hughes, W. Thackeray, E. J. Burndred, L. W. Heelis, W. Dale, G. Wartnaby, A. Crofts, S. Marriott, W. Tart, W. Brown, R. Cockburn, T. Spencer, J. M. Parker, C. E. Dayns, and others.

The circular convening the meeting was read, and the minutes of the last meeting were read and confirmed.

Mr. RALPH L. C. FORREST, of Alcester, Warwickshire, and Mr. G. THORNTON, of Leicester, were nominated for membership, their names to be submitted for election at the next meeting.

Mr. B. L. SECKER, of Malvern Link, was elected a member of the Association, on the proposition of the Hon. Sec. (acting for Mr. F. W. Barling) seconded by Mr. Gold.

The HON. TREASURER (Mr. Burchnall) reported the resignation of Mr. J. H. Barber, of Alcester, who had sold his practice and left the district. The resignation was accepted with regret.

RECOMMENDATIONS OF COUNCIL.

The following minutes of business transacted by the Council of the Association prior to the general meeting were submitted and approved:

A letter dated from the Royal (Dick) Veterinary College, Edinburgh, was read *re* the amalgamation of societies, and announcing that the amended rules had been passed by the National Veterinary Association.

A notification was received from the Royal Sanitary Institute that the next Congress will be held at York in August next, and the Hon. Sec. was requested to bring the matter before the February meeting.

It was reported that Prof. Bradley had kindly promised to lecture at the next meeting on the subject of Heredity.

The Hon. Treasurer reported that there were six members in arrear with subscriptions, three owing five years and three owing three, and the Council recommended that the Hon. Sec. be instructed to write to them and inform them that unless their subscriptions be paid before the annual meeting in February their names will be publicly read out at that meeting and they will be struck off the membership roll.

The annual meeting was fixed to be held in Birmingham.

CLINICAL NOTES.

A CASE OF EQUINE SARCOMA.

Mr. W. H. BROOKE. The two cases, he thought, would be of interest because members of the profession met with such a number of things they were apt to attribute to indigestion. They could not see very much further, and post-mortems in cases of this sort were helpful. The first was one of sarcoma affecting a well bred brown carriage gelding, 16 hands and 14 years old. For six months it had been doing very badly—the appetite precarious and with symptoms of indigestion. About midway through this six months period the bowels began to be relaxed, and during the latter part of the time they were very much so—at last quite liquid. The general sanitary arrangements were satisfactory. The teeth were found irregular but this could not by any means account for all the trouble. He used anodynes, astringents, and tonics, but they gave only temporary relief. There was a slight rise of temperature, varying between 100 to 103 and 103 degrees. Hepatic symptoms were absent. The animal was feeding fairly, but the appetite failed in latter part of the time, and the animal gradually wasted, and as the bowels began to be more relaxed he concluded there was serious obstruction in the lymphatic glands. He thought it might be tuberculosis, and applied the tuberculin test with negative results. The patient got worse and worse, and was destroyed. A post-mortem was made, and the small intestines were found to be a third of the normal calibre, while the large bowel was only about half the usual calibre. There was great distension of the veins, and the slightest touch with a knife caused hemorrhage. About two feet from the termination of the ileum there was a tumour weighing 4lb, and affecting the glands on the large bowel. Most remarkable was the condition of the sublumbar glands. When cut out of the loins and put on the scale the enlargement weighed 40lb. He had never seen a tumour of that description weighing that amount.

TUBERCULOSIS.

The second case was a grey cart gelding, 12 years old. He had examined it three or four years before, and it had always kept up well in flesh. It had a slight cold, and its appetite was precarious, refusing large feeds, but feeding fairly. The symptoms pointed to digestive derangement. The animal was looked after for a week and improved, but then steadily got worse. The bowels became inactive, and for a week or ten days before death, unless kept relieved with enemas, there was no action. Hard pellets filled the rectum. Examination per rectum did not disclose anything distinctive. There were occasional blowing fits with normal intervals. He looked on the bowels as the seat of the trouble, but could not understand it altogether. The gelding gradually lost in flesh. The tuberculin test gave negative results. During the last few days the lungs were seriously involved, and on the day of death the symptoms were very urgent, with profuse perspiration, and the bowels seemed very relaxed. The post-mortem showed general congestion of the bowels, especially of the small intestine, and there were tumour-like enlargements affecting the sublumbar glands and the spleen, which when cut into were calcareous. There was very little pus, and

it was evidently of old standing, but there was a sudden affection of the lungs, no doubt due to the giving way of one of the lymphatic glands. The bronchial glands were similarly affected, and the lungs were the seat of dense tuberculosis.

In reply to Mr. Over, Mr. Brooke stated that the sublumbar glands were a good distance forward.

Mr. GOLD, referring to the first case mentioned by Mr. Brooke, asked whether he satisfied himself that the remarkable growth was typical of sarcoma? Apparently the second horse had been suffering from tuberculosis for a long period. Was the diarrhoea precedent or subsequent to the tuberculin test?

Mr. BROOKE replied that in the case of sarcoma he found it first, and Mr. Malcolm confirmed it. The diarrhoea occurred after the test in the second case.

ACORN POISONING.

Mr. W. T. BROOKES followed with "Some Notes on Acorn Poisoning, as met with in Cattle." He said: During October I was called in to several lots of cattle in different districts suffering from acorn poisoning. The first lot of young cattle were taken ill on the 9th of October, and consisted of nearly all heifers, Shorthorns and Herefords, about 18 months to two years old. Eight animals were affected. One of them died on October 14th, and another on October 21st. On this date the remaining six had recovered and commenced feeding again.

The second lot of young cattle were situated in another district altogether, and were all heifers. They were taken ill on October 16th, and one was found dead on arrival. Eight other heifers were found to be suffering from undoubted acorn poisoning, and two of them were already *in extremis*; one of them died on the night of the 16th of October, and the other on the 17th of October. On October 18th three of the original eight were well, and three fresh cases had occurred, making in all 11 cases. On October 21st the remaining eight heifers had all recovered.

Several other beasts in different parts have come under my notice, making 30 in all, nine of which have died. Most of the symptoms described in any text-book I have been able to refer to have been conspicuous by their absence. The chief things noticeable were the dull and depressed appearance of the animals, an entire absence of appetite and rumination, a weak, feeble pulse, subnormal temperature, and a disinclination to move about. Only one case in the first group and two in the second showed a mucous and blood-tinged discharge from the nostrils and anus. These all died, the first eight days after being seen, and the other two the day afterwards. An obstinate stoppage was noticeable in all the cases, and what little faeces were passed were inky black, stinking, and very thick. This impaction did not yield at all easily to treatment, and where a post-mortem was made, the acorns were still present in the stomach.

In treatment, oleaginous and saline purgatives were given, combined with aloes Barb. in solution up to 5viii, and Croton oil. Alkalies, as Soda and Pot. carb. were given, as well as stimulants—Nux vomica, Ammon. carb., Spt. aeth. nit., and Spt. ammon. aromat. Also linseed and oatmeal gruels. In one case a drench consisting of Aloes Barb. ʒi. in solution, Croton oil 40℥, Oleum. lini. Oiss. was given.

The post-mortem examination showed all these were more or less alike. The rumen contained an enormous quantity of pulsatous material—of gruel, and food which apparently was not able to pass on through the second and third stomachs, also acorns and acorn husks. The mucous membrane was congested with numerous hæmorrhagic spots noticeable. The reticulum was normal. The omasum was somewhat empty, the contents of a pasty consistence. This organ had the appear-

ance of being partially paralysed, was more or less collapsed, and seemed to act as a trap through which neither food nor gruel could pass. A patchy congestion was noticeable. The abomasum was intensely inflamed throughout. The spleen was normal in size but had a curious congested appearance in sections. The small intestines showed occlusion of the bile duct, were not very full, and contained inky black fluid material. The mucous membrane was more or less inflamed, and in some cases the contents of this bowel were blood tinged.

The liver was nearly always pale and congested with bile. The gall bladder was four times its normal size. The kidneys were very pale, and dropsical fluid was present in the fatty envelopes. In the case of the lungs, ingesta was found to have gained entrance through the trachea in two cases, and the lungs themselves were intensely congested. Through the occlusion of the bile duct, the portal system appeared to have been disorganised, and as a result all the organs of the body were congested. The stomachs appeared to have lost all tone and to be partially paralysed, and the omasum seemed to have acted as a trap through which neither food, gruel, nor medicine could pass. The rumen consequently became tremendously dilated, and the acorns remained in the stomach instead of being passed on. As a result of this condition of the rumen, regurgitation of the food took place, and some of it was got down into the trachea.

These very inadequate remarks have been written with the hope of creating a discussion amongst the members, and I shall be very grateful for any information on the subject. I must confess I have found acorn poisoning a most difficult ailment to treat, and have often thought of resorting to inter-tracheal injections of eserine, but have never quite liked to attempt it. I shall be greatly obliged if any of you will suggest a new and more successful treatment than the mere administering of medicines.

Mr. YEOMANS contributed a note on the same subject. During the last month or six weeks, he remarked, practitioners in districts where oak trees were found had had many cases of acorn poisoning in cattle. In his experience the symptoms in most cases had been as follows: The animal seemed heavy, depressed, and listless, with loss of appetite and cud; there was constipation, a doughy condition of the rumen on palpation, and grunts. In fact the symptoms were those of acute digestive disturbance. Later on the eyes had a sunken appearance, diarrhoea set in, the faeces being dark coloured, offensive, and blood stained. The temperature at first was normal, and later sub-normal, and in fatal cases death took place in from about three to seven days.

Judging by the report of the number of deaths that had occurred recently, the treatment up to the present had not been so satisfactory as they could wish. He knew of no specific antidote, and his only reason for bringing the subject forward was that he hoped to gain some information from the discussion. The best results had been obtained by the early administration of a fairly large saline aperient combined with vegetable bitters, and followed by ant-acids, stimulants, etc., demulcent and nutrient drinks such as boiled linseed, new milk, etc. It certainly did seem that in those cases where the aperient was given early, the results were much better than when the practitioner was called in later on, as was too often the case.

Mr. GOOCH commenting on these two papers, inquired what was the actual cause of death in cases of acorn poisoning; and whether it had frequently been found that death had resulted after cattle had been removed for at least three weeks from places where acorns were to be found? He had had fatal cases in which the cattle had been feeding probably three or four weeks before on acorns, and then acorn poisoning had set in.

Every time one of the first symptoms had been black diarrhoea. He had had large experience this year, much more he hoped than he would have again, of fatal cases, and he had found that practically no treatment was of any avail after a certain stage. If the animal was depressed, with subnormal temperature, he had not known a recovery. In the only one in which recovery had taken place no medicines were administered; the animal was simply fed up.

Mr. BROOKES took it that the actual cause of death was the absorption of the toxin from the acorns.

Mr. GOLD remarked that all those members who practised in agricultural districts had seen a lot of what was called acorn poisoning this season, and the symptoms that had already been described were very much the same as in the cases that had come under his notice. What was noticeable in the later stages was that there was loss of control of the limbs. Mr. Brooks did not say anything about large clots of blood passing from some cattle. A remarkable feature in connection with Mr. Brookes' post-mortems was what might be called the dropsical condition of the kidneys, and the situation of the whole of the disease at the rear of the kidneys. A lot of trouble was experienced in getting rid of an enormous quantity of fluid from around the kidneys and loins. Another peculiarity was the corrugated condition of the large bowel. In illustration of this, Mr. Gold produced a specimen, out of a Shetland pony, the state of which, he suggested, showed that recovery was out of the question. In bullocks he had noticed that when they had been suffering from the disease for some days there was a dropsical condition of the sheath. He had never yet known a case of that description in which the animal had recovered. He was afraid that at the stage at which veterinary surgeons were called in they had not much to say about treatment. He did not know of anything heroic that was much good.

Mr. BROOKE, observing that if they did not really know what they had to treat they were not likely to treat it successfully, suggested that in these cases it was tannin poisoning that limited absorption. Tannin was an antidote to a number of alkaloidal poisons. He took it that the trouble lay in the limiting of the absorption. The condition of the fat around the kidneys he thought was due to lymphatic obstruction. He should like to hear more as to what the post-mortem showed to be the condition of the gall bladder.

Mr. PARKES asked whether it was not an accepted fact that the cause of death was tannin poisoning, and Mr. GOOCH said he should very much doubt it.

Mr. FORWELL thought the period before death occurred was much shorter than had been stated. He had had a case in which it occurred in less than three days. It was not blown up.

Mr. ISON said he had seen several cases in which the animal had got blown up through eating acorns and had died. He concluded that that was not acorn poisoning. As to treatment, he suggested plenty of linseed gruel, and he had also great faith in treacle. Was the action of the acorns such as to cause a large secretion of bile?

Mr. BAINBRIDGE mentioned that in a case which he was attending he had given doses of Epsom salts with some bi-carbonate of soda. He was somewhat ignorant as to the treatment, and whether in this instance it would prove effectual he did not know. In another animal the faeces were very black and there was an oozing of blood from the nostril.

The PRESIDENT stated that acorn poisoning was extremely prevalent in his district. A remarkable case was that of a cow that had been running with a calf in a park. When he was summoned he found her down and unconscious, with her nose pushed into the ground. She had been given a pound of salts, and he gave her a good dose of linseed oil, about a pint and a half, and

some bicarbonate of potash. The next morning she ran him clean out of the place, and she was now getting well. A free passage had been obtained with the bowels, particularly open and natural. In two other cases he at first gave a pound of salts mixed with a pint to a pint and a half of oil, and the animals were recovering. If the trouble was taken in hand early satisfactory results could be secured, but if the acorns had been eaten for from a fortnight to three weeks it was a difficult matter. He had a case in which a cow had not been near an acorn for a month and yet she was ill. The bowels were relieved, and he administered vegetable tonics and stimulants and persevered with bicarbonate of soda. A peculiar case was one in which the owner had given salts, linseed oil, fat bacon, and butter to get the animal's bowels open. He (the speaker) then gave simple tonics and stimulants and the animal was now going on all right.

The HON. SEC said it seemed to him that after all the attention which had been drawn to acorn poisoning by the daily papers, farmers did not take sufficient care to keep their animals from oak trees. He thought the County Councils might with advantage issue leaflets drawing attention to the danger.

Mr. PARKS asked whether cases of acorn poisoning in sheep had come to notice.

The PRESIDENT said he had never known that they were killed by acorns, but a bailiff once told him that on opening two lambs that had died he had found a quart of whole acorns. Answering a similar question as to pigs, the President stated that he had a case in which a pig steyed up was blue all over, and he found that the owner had given it acorns, which in his opinion had caused the blueness.

Mr. TAYLOR pointed out that acorns were sometimes ground up and mixed with corn, and the President replied that given in moderation it was splendid food. If animals were given a liberal supply of hay when acorns were about they were not poisoned by the latter.

Mr. YEOMANS said he had used treacle very extensively, especially in the early stages, and had found it very beneficial. Had any member used barium chloride? With reference to the case in which death occurred within a few hours, he did not think the acorns had been eaten a sufficient time for the absorption to have caused death.

Mr. BROOKES, in answer to Mr. Gooch, said that in the cases under his notice most of the animals lingered several days, and as far as he could gather all of them had very recently eaten the acorns, and their illness was noticed immediately it occurred. He had always held the view that death was due more or less to some poisonous property of the acorn, but exactly what that was he did not know. In one instance it seemed to narcotise the animal very much. As to Mr. Gold's question, he had noticed a loss of power in the hind limbs in one or two cases, but not in all. The animals could walk about if they were compelled to, but in two or three cases, especially in those that proved fatal, they became weaker day by day, and lay down never to get up again. He had had no cases in which large clots of blood had been passed. With regard to the dropsical condition of the kidney he had had two cases in which they were practically disintegrated and black in colour. The peculiar corrugated condition of the large bowel to which attention had been drawn by Mr. Gold, had never come under his notice. He believed that the chief action of the tannin was of a constipatory nature, and the cause of the gall bladder being full was that the matter was unable to get away through the small intestine. He had not administered oil and salts together, but had given them separately, and followed them up with doses of aloes and with croton oil. He had not, however, had very good results from whatever he had been able to give. He had had no actual case of a sheep

being poisoned by acorns, but he knew of several in which they had died from acorn poisoning.

Mr. C. E. DAYUS (Craven Arms) who was to have read notes on "Bracken poisoning in cattle," was unfortunately unable to attend.

COWS AND WALNUT TREES.

Mr. GOLD. On October 8th, he was requested to see three cows; the animals were re-testers in a clean herd of 100 dairy cows, and they yielded to treatment much more quickly than in cases of acorn poisoning. He found the animals to be showing the following symptoms: very dull in appearance, eyes very blood-shot, constipated bowels, champing of jaws, frothy saliva around mouth, and occasionally grinding teeth. When made to get up they appeared quite silly, and blundered about the yard and building, falling over, and showing symptoms of epilepsy. If left alone they lie quietly, but there was continued champing of jaws and twitching of eyes. One cow passed a little dung which was hard and covered with blood, and showed every condition of paralysis of the bowels. Water was passed in very small quantities, and of a light blood colour. The whole of the cows strained after passing water, and this continued for about two days more or less. The cows had been turned out in an orchard which contained fruit trees—apples and pears—and also several walnut trees. The branches of three or four of these were low and within easy reach of the cows. Two of the cows were dry and lying off calving, and having one or two feeds per day, the same as ordinary cows. The third, a barren cow, was dry also. The cows were noticed to be eating not only at the branches and leaves of the walnut trees, but also the nuts and huds. The symptoms were certainly those of a form of narcosis. He was quite at a loss to know what the poison was in walnuts, and was still in the same uncertain state. The cows responded to treatment in the course of a few days, and as far as could be seen had made a perfect recovery. He would like to hear if any member had had a similar experience, and if so, was he able to detect the poison contained in walnuts, huds and leaves.

Mr. Gold explained that he gave a good strong purgative in the first instance, consisting of salts and aloes, and followed up with the usual digestives, nux vomica, ammonia, and things of that sort. Except for what they obtained in the orchard, the three cows were fed in exactly the same way as from 95 to 115 others on the premises. The cows could have got nothing else but apples, pears, and the walnut trees, apart of course from the grass. He was strongly of opinion their condition was due to their having eaten walnuts. There had been a serious outbreak of swine fever a few months before, but the later trouble could not be connected with that.

A FEW CANINE MOTOR ACCIDENTS.

Mr. F. J. TAYLOR (Birmingham) said: No doubt many of the members present practise in districts where motor cars are "occasionally" seen in the streets, and they invariably have a casualty list to account for in the shape of dogs, a great number of which are rolled over and over under the chassis and come out at the other end simply shaken, frightened and covered with dust, whereas others suffer from injuries so remarkable, and so unlike other injuries, that I thought a few cases of this nature might be interesting to those canine practitioners in large towns, where motor cars frequently bring in a little grist on the one hand to compensate for the financial loss they cause to our business on the other hand.

Correct diagnosis on the spot is often an impossibility owing to the complex nature of the symptoms presented immediately after the accident. The usual history is

that owner was exercising his dog which strayed into the road, and a motor coming along at quite a regardless speed, alarms the owner, who calls the dog, and in this way distracts his attention for the moment from the car. The driver of the car trusts that the dog may obey his master and proceeds, but the dog remains stationary. The result is an almost unavoidable collision, in which the starting handle, radiator, ends of the springs, tyres, or the chassis play an important part, and the victim is extremely lucky to come out at the other end (as frequently happens) simply very dirty, bruised, and frightened. On the other hand, more serious consequences may ensue, as the following instances will illustrate:

I. A wolf hound, after collision with a large car, was run over by both near side wheels without any external injuries being inflicted. It was brought to me in a totally paralysed condition, being unable to move any limb, and having quite lost the powers of retention. He remained in this condition for five days, being artificially fed. Catheters and enemas were used three times daily, counter irritants were applied to the spine, and iodide of potass and strychnine administered internally. Complete recovery took place from the sixth day.

II. An Irish terrier jumped from a car in motion, which ran over him with one wheel. When seen the dog was evidently in acute pain, and difficult to handle, great tenderness being manifested on manipulation of the posterior ribs. There was no external injury to assist in the diagnosis. Anodyne liniment was applied, and internal sedatives given, but the dog died during the night. The post-mortem showed a rupture of the capsule of the spleen and an exudation of the contents into the abdominal cavity, the border of the interior right lobe of the liver was split in seven places, and the duodenum almost completely severed by the crushing action between the tyre and possibly some rib-like elevation in the road.

III. A collie dog was completely run over by a chassis, and in the rolling process both testicles and scrotum were nearly torn away, and damage to some surrounding tissues necessitated removal of the former. No complications ensued, and recovery rapidly took place. I mention this case, which may seem a somewhat trivial one on the face of it, because of the frequency with which this class of injury is inflicted by motor cars, and I attribute it to the fact that during the rolling over which takes place underneath the car, the testicles, being pendulous, are liable to come into contact with projecting metal parts, and become badly torn or completely removed by being hooked up in some way.

IV. A Dalmation bitch, which was run over by one wheel, showed no definite symptoms for twelve hours, when she began to look distressed, and breathing became accelerated. No urine having been passed during the night, a catheter was used without success. Great pain was evident in the perineal region, which hot fomentations seemed to increase, and death took place 24 hours after the accident. The post-mortem revealed a ruptured bladder and peritonitis. I blame myself for not operating in this instance, as I was firmly convinced at the 12th hour that such a possibility might exist, but the owner was averse to operation, and I was unable to convince her of the evident necessity. I should not hesitate, however, when permission can be obtained, to open the abdominal cavity whenever internal injuries, or organic ruptures can be diagnosed, as my next case will substantiate.

V. A fox terrier bitch, ten years old, after an accident in the street, was seen in a collapsed condition, and evidently bleeding profusely internally. There was no relief from the treatment adopted, and it was decided to operate the same night. Rupture of the right kidney was found, and on this being ligatured and removed, the hæmorrhage ceased. The abdominal cavity was washed

out with a normal antiseptic solution and mopped dry with sterilised gauze and wool. The wound was closed in two layers by gut and silk, and there was a complete recovery in a few days.

VI. A retriever dog was brought in with prolapse of the bowel and external wounds in the thigh and inguinal region after an accident with a motor cycle. The operation of protopexia, or ventrifixation of the bowel to the abdominal wall was performed with good result.

VII. A young terrier dog was injured in the lumbar region and kidneys by a car. It died an hour after being seen, and the post-mortem showed a rupture of the kidney and a fracture of the spine.

VIII. A cross-bred collie bitch had both fore legs fractured by a motor bicycle collision, they were set and a recovery took place.

IX. A terrier dog sustained an injury to the neck by a wheel passing over it. It was brought in unconscious, the eyeballs were rotating, and it was involuntarily passing urine. It remained in a comatose state for 24 hours and then died. The post-mortem showed dislocation of the occipito-atloid articulation, the spinal cord was almost severed, but all the other organs were normal.

X. A dog was injured by a collision with a motor bicycle, the rider of which was of opinion that the dog got his leg through the spokes in some way, with the result that the gastrocnemius tendon was completely divided in the near hind leg. Suture of the divided tendon was made under an anaesthetic, silk worm gut being used to make the union, the wound in this case being dressed with chloroform and iodine 1%, and the leg encased in normal position by plaster of Paris bandages. These remained on for three weeks, and on being removed the tendon had resumed its proper function, and lameness cannot now be detected in the limb.

XI. Partial and complete rupture of the stomach are not frequent sequels to motor accidents in my experience, but one case is worth recording in which laparotomy was performed, and a necrosed partially ruptured portion of the stomach wall was excised and the patient is still alive, apparently healthy, and free from gastric trouble.

XII. Stricture of the bowel was caused in a spaniel bitch by a motor accident, eighteen months previous to my treating her for complete stoppage and intestinal paralysis. I attempted to evacuate the bowel with glycerine suppositories, by enemas, and by a long bone spoon which I employ for this purpose, but without successful result in this instance. Laparotomy was performed under an anaesthetic, and an attempt was made to knead the obstruction down the bowel towards the rectum. This also failed, and the constricted portion of the bowel and also the obstruction were removed. The divided parts were brought together by a Murphy button, which remained in position so long that a secondary operation had to be performed to remove it from a mass of granulations and anastomosed tissue. The opposing sections of the bowel were again brought together over a tube of carrot, and this supported the united action for several days when it was passed in a partially digested condition and covered with mucus. Benger's food was given for a fortnight afterwards, and the dog recovered and is still alive.

Mr. GOOCH asked whether Mr. Taylor had had a case in which a dog, rushing straight at a car had had an eye knocked out and left lying on the cheek.

Mr. TAYLOR replied that he did not think it was a common occurrence for the eyes to be injured in accidents of this kind. Unless it was a dog with prominent eyeballs, the eye usually sank into the socket from the blow and was practically uninjured.

STIFLE DISEASE IN FOXHOUNDS.

Mr. F. L. GOOCH. Two specimens of bones, one

showing a limb that was perfectly healthy, and the other in which it was diseased. The injury was said to be due to the hound jumping a piece of timber, and he thought in that event there might be luxation of the patella. He had been under the impression that they must not look to external injury for the disease, but that it was internal, and might probably be congenital, or ascribable to rheumatism. He believed that treatment, to be effective, must take place when the animal was a puppy.

Mr. Gooch also produced a calculus which he had found tightly lodged in the rectum of a cart mare. He could reach it with two fingers, but found it impossible to remove it, and the animal died.

Mr. GOLD wanted to know whether Mr. Gooch attributed the condition of the foxhounds to rheumatoid arthritis or to some inherited cause other than rheumatism, whether it was a young puppy or an aged hound, and what was the condition of the liver?

Mr. GOOCH. The foxhound trouble was of the nature of rheumatoid arthritis. The animal was a fourth season bitch, and when she started to run she was very lame, but when she got fairly warm the lameness was not noticeable.

Formation of calculi commonly occurred in mill horses. He had had larger specimens than the one produced, but the remarkable fact concerning this one was the fact that it was impossible to remove it.

INTESTINAL DISTURBANCE IN A BULL.

Mr. D. FORWELL. On September 7th I was asked to go to see a three-year-old polled Angus bull. The owner noticing the previous day that the animal was dull and loose in his bowels thought he wanted a dose of physic, and gave him the usual pint of linseed oil.

On my arrival I found the animal looking very dull, his eyes sunken, refusing all food, but the temperature was normal and the bowels very loose. From my examination I thought he had picked up something in his food or drinking water to upset him, but was told he only had cake, hay, and bran, and he had never been out farther than the yard for drinking water. As he had a laxative in the form of the linseed oil the previous day, I gave him some tonic astringent powders composed of Ferri. carb., alum, and cascarrilla twice daily, but these had little or no effect. As he was willing to drink I gave him cotton cake gruel only. I saw him two days later (September 9th) and there was still no improvement, as the animal was still refusing food and drinking the cake gruel only. I again called two days later (September 11th) and was told he had died about an hour before my arrival.

Post-mortem, I found all the organs of the body in a normal condition, with no trace of tuberculosis or inflammation, but I was surprised to find that the rumen and other stomachs contained a large amount of ingesta in a soft and moist condition. The animal had eaten nothing, and had only been allowed gruel to drink for five days, and yet the stomachs were quite full. I was quite unable to account for this, and could only give my opinion that the bull drank some dirty water while out in the yard. But even then, why should the liquids pass through the bowels and leave the solids normal in the stomachs? I shall be pleased to have a more satisfactory solution of this case.

UNEXPLAINED SWELLINGS IN A HEIFER.

Mr. FORWELL. I examined a two-year-old short horn heifer about three months ago, by request of the owner, and found there was a long, hard, flat swelling on her back, reaching from the middle of her back to near the tail on both sides of the spine. I thought she might have been injured or possibly stung, but could find no marks. I gave some strong liniment to rub on the swelling twice daily, thinking I might get a proper abscess formation. In about a week I tried to lance in

one part, but could only get a small quantity of serum and pus evacuated. I then applied a good blister along the greater part of the swelling, but with no success, as the substance remained as hard as ever. The heifer was eating and gaining in condition, so we turned her out and let her take her chance. On going to this farm again about three weeks ago I was surprised to find that both the hind legs were swollen and hard, and the swelling on the back still present if not quite so extensive. These swellings are very hard but not painful in any way, and, as already mentioned, the animal feeds and does very well. I might mention that there are no fissures on any of the joints of the legs. I should have tried a course of Pot. iodide, but the owner was unwilling to go to further expense, and the heifer is still doing very well.

Mr. GOLD said he was not at all surprised that the stomachs of the bull were full, because it seemed to be a positive fact that an animal might be what he might term "starved" to death, and yet on a post-mortem being made a great quantity of food will be found in the rumen which it had been unable to make use of. It might have been a case of nervous paralysis of the bowels.

PARTIAL OCCLUSION OF VAGINA.

Mr. REYNOLDS explained a case of partial occlusion of the vagina. The mare was half-bred and three years old. The owner had lent her to a farmer who subsequently told him she was ill, and on going to the farm he found her with a foal half delivered, this being the first that was known of her being in foal. There was some difficulty in removing the foal, and a veterinary surgeon was sent for. Subsequently she was brought to Mr. Reynolds owing to her inability to urinate. The whole of the hair on both sides was excoriated. On making an examination he was able to put his fingers into the lips of the vagina, but no farther. At the top of the vagina he could get one finger through a small opening. He split the vagina in order to admit his arm, and found an accumulation of urine, which was gritty. The vagina had since been kept open by inserting the arm smeared with ointment, and no further trouble had been experienced. He had never heard or read of a similar case. The opening was but one little hole.

INTUSSUSCEPTION IN A FOAL.

On Sept. 26th a Shire foal had been sent to a sale, and had had an attack of colic, for which it was treated. It was brought home, and on the following day was weaned. For a considerable time it did badly, but this was believed to be owing to its having just been weaned. On October 19th Mr. Reynolds was called in, and on examining the foal could find no symptoms of pain. The bowels were a little relaxed, and the animal ate anything that was given to it. He arrived at the conclusion that it was a case of intestinal trouble from worms. Everything was done, but death occurred on Nov. 1st. He was asked to make a post-mortem, and he found that there was intussusception of the cecum, and the portion that was invaginated was solid. The foal had never shown any abdominal pain nor any sign of enteritis. He took it that the intussusception occurred on the day the animal was seized with colic.

Mr. Reynolds produced a fractured sacrum taken from a horse that sustained the injury in jumping a fence.

Also the larynx of another horse which previous to the operation thereon was a rank roarer, but afterwards gave no sign of that trouble when lunged, and made only a slight noise of that description when ridden. This animal had to be destroyed 12 months after the operation owing to lameness.

Mr. OVER mentioned that he treated the foal to which Mr. Reynolds had referred, and it was not an ordinary

case of colic. The animal was in acute pain, but at night it began to improve. It had travelled eight miles to the sale, and he regarded it as a little bit "overdone." He treated it with sedatives, a little oil, etc.

NASAL POLYPI: NECROSSED BONE.

Mr. W. N. THOMPSON: The subject, an aged black gelding of the light vanner type, was sent into hospital on January 28th last because he made a noise when at work, which was found to be due to the presence of polypi in the near nostril. Two were removed by my colleague, Mr. S. R. Robson, M.R.C.V.S. When my attention was called to the case the animal was making a noise when at rest. There was a fetid discharge from the nostril, the animal presented an unthrifty appearance, and was said to be losing flesh. An examination revealed the presence of more polypi, and necrosis of the bone was suspected. It was decided to open the nasal meatus. A hole was trephined on a level with the inner canthus of the eye and about an inch from the median line, another three inches below, and the bone between them removed by the use of the saw used in Smith's operation in feet. When this had been accomplished more polypi were seen, and it became necessary to remove more bone. This was done by the same means as before, about three inches more being removed longitudinally. We now had an opening into the nasal cavity about eight inches by one. An examination revealed the fact that the superior or ethmoid turbinated bone was necrosed, and as much as possible was removed below this. In the middle meatus were five polypi which seemed to hang in folds of mucous membrane and arranged one above the other. They varied in size from that of a duck egg to the egg of a bantam. The whole came away together, and seemed to be in the mucous membrane covering the superior turbinated bone. The curette was freely used, and all necrosed bone removed as far as possible. The wound was washed out with cold water and afterwards with weak chinosol solution, and the cavity was plugged with absorbent cotton wool. The hemorrhage was excessive. The operation was performed in the Travis, the horse standing well. The following day the patient was doing well, was comfortable and taking food, but the dressing was not disturbed. The next day the dressing was removed and was very offensive. More necrosed bone was removed by the curette, part of the ethmoid cells being included, and some of the maxillary or inferior turbinated bone. The cavity was well syringed out with a weak solution of carbolic. The discharge remained very offensive and copious for a week. The cavity was examined daily, and all necrotic pieces removed. The wound was washed out three times daily by using an enema pump with weak solution of Chinosol, Pot. permanganate, Carbolic acid, cold water, etc. Mineral and vegetable tonics with arsenic were given. The discharge was so offensive that his attendant, who is used to such things, asked me to have him destroyed, but it gradually decreased both in amount and effluvia. The horse then began to put on flesh, and resumed work on May 8th, and has been at work ever since. I saw him about a month ago, and the only evidence of an operation is a slight scar about four inches long and a slight indentation. He is doing fast work, and makes no noise. He was a good patient and never any trouble to dress.

AMPUTATION OF THE PENIS.

The subject in this case was a brown Shire gelding, about 12 years old, and it was suffering from paralysis of the penis. After the usual treatment had been tried without result, it was decided to amputate. The animal was chloroformed after being cast on the off-side, the near hind leg drawn well forward and secured to the fore leg. The whole region was well washed with hot water

and soap, dried and thoroughly disinfected. Owing to the swelling and ulceration it was necessary to amputate high up, and we divided the frenum which joins the prepuce to the penis on its dorsal surface. After taking up the vessels with the forceps, the catheter was passed and ligatures applied above and below the seat of operation. By dissection the urethra was exposed for about two inches and a longitudinal incision made on the catheter, which was then withdrawn and the free edges of the urethra were sutured to the surrounding tissues in the form of a triangle the base, of course, being towards the free end of the penis, the urethra having been previously divided transversely. The ecraseur was put in position, but before the whole organ was divided the chain broke. A ligature was put on and the operation finished with the knife, when it was found that the corpora cavernosa had been entirely divided by the ecraseur and only the tunica albuginea by the knife. The hemorrhage was slight, and subsided almost immediately the patient got up; he was placed in a stall and the usual instructions given as to feeding. About three hours afterwards the horse staled and hemorrhage began, and he was still bleeding when I saw him an hour afterwards, but nothing to be alarmed at. As night was approaching, I cast him again and found the bleeding was from the vessels of the prepuce. The wound was plugged and a suture inserted drawing the prepuce together. This was removed the following morning, the ligature from the penis coming away in about 10 days. The after treatment consisted of cold water from a hose pipe twice daily; mag. sulph.; pot. nit. The animal never experienced any difficulty in urinating, and never missed a meal. The operation was performed on Friday, September 22 and the animal was certified ready for work on October 28, exactly five weeks later, during which time there was a decided improvement in condition.

LIGHTNING?

The animal concerned in this case was an aged hunter mare which had been pensioned off for about three years, during which time she had been out at grass. I found her standing in a paddock in a comatose condition, head hanging down and much swollen, blood vessels full of blood, the conjunctival mucous membrane was protruding above eyelids, constant shifting of limbs, with twitching of quarters, and attempted to eat at intervals; pulse, 60, full and slow, temperature, 101.2, respiration, 12, shallow. On the near side of the crest, midway between poll and withers, was a hairless spot not more than a quarter of an inch across, which was dry and purple in colour, and looked like one of those abscesses met with on the neck in horses, which had healed, and to which I did not pay much attention. It was impossible to move the mare except by main force.

Diagnosis: Venous congestion of the brain. *Etiology:* Doubtful.

Prognosis: Guarded, probability of recovery dependent on cause. I proposed to treat the symptoms and see again next day, but the owner thinking she was in pain wished her to be destroyed, and this was done.

The post mortem showed rigor mortis to be almost entirely absent; subcutaneous vessels full of blood, slight extravasation below serous membrane of large bowels and stomach, small fatty tumour hanging in folds of peritoneum from the region of kidneys; when liver cut into, blood ran into cut dark in colour. Old pleural lesions. Heart contained dark fluid blood and showed extravasation under the epicardium. The tissues immediately below the purple hairless patch were discoloured and there was laceration of the muscles, which were dark coloured, in a downward direction for about four inches, when there was a sharp turn in the direction of the shoulder, the laceration terminating immediately in front of the scapula.

My reason in reporting this case is that in my experience

it is unique, and the fact that the post mortem of cases of lightning are often very unsatisfactory. I have often wondered whether chemical analysis of the blood would reveal anything.

STRANGLES.

A chestnut filly hackney, three years old, was broken in as a two-year-old and turned out for the winter, and was not noticed to be other than all right and doing well until April 20th last, when the owner received the news that she did not seem well, and I was asked to look at her. I found her standing with nose poked out, anxious expression, pulse accelerated only slightly, and quick in character. A manipulation of the throat and poll revealed nothing, and the temperature was 100.5. On being led out of the stable she moved stiffly, with her tail raised and quivering, and when turned round moved all in a lump and seemed excited. There was no evidence of injury. My diagnosis was doubtful—possibly tetanus, or poll evil, or injury. I treated her with salines, put her in a quiet box, and ordered soft food. She continued in this condition for about a month, during which time she was seen by a professional friend, but we got no further. She ate fairly well, but drank very little, and often stood with her teeth resting on the manger. About this time I noticed, or fancied I did, a slight swelling and tenderness under the wing of the atlas on the near side. This was blistered, and she seemed to improve for a week or so. By this time, of course, the tetanus and poll evil theory had been exploded, and I still thought it possible there might be some injury to the atlas. The enlargement did not increase, and the use of the exploring needle did not yield any result, so I advised that she be turned out and we would wait for something to turn up. I saw her continually for some weeks without any alteration taking place. She grazed well and galloped about, but carried her head almost parallel with the ground, and when caught the least pressure on the nose would cause her to run back. She was losing flesh, but feeding beasts in the same field were making no headway.

On the 19th of August I noticed three or four large diffuse swellings underneath the mane and extending from the centre of the crest to the withers, another on the near thigh, on the inferior border of the neck, and there were several small, round, and hard bodies which were painless. These disappeared and re-appeared several times, and on examining her on September 22nd I found to my surprise several small spherical nodules, hard and apparently painless, along the crest, which made me think of sarcoma. About ten days later I went prepared to dissect out one of these nodules, if still present, and to my further surprise found three of them fluctuating. I opened two of them at once, and their contents were typical of strangles pus. Although I have not had it examined under the microscope, I have no doubt the cause of the whole trouble has been the streptococcus of strangles. There were a dozen abscesses in various stages, and up to the present time I have opened about twenty. She is having tonics, mineral and vegetable, with arsenic, and one injection of nuclein. Her head is much freer, she drinks plenty of water, and is much improved in condition. There are still a few more abscesses to discharge their contents, but she is getting so lively that they will probably have to take their course. I anticipate she will make a complete recovery.

TWO REMARKABLE RECOVERIES.

Mr. OVER. The first case was one of prolonged paralysis in an Alderney cow after milk fever. She went down on April 14th last, but got up the same night after oxygen treatment. Five days later she went down again and was very ill. She had several injections be-

tween that day and April 22nd, when she seemed quite herself, feeding well and milking well, but had practically no power in the hind limbs. Nux vomica and ammonia were given three times daily, and the legs rubbed and the back stimulated. At the end of a fortnight the owner was advised that she had better be killed, but he would not consent. She was on a good bed in a box, and would scramble round, but could not use her legs. On three different occasions she was pulled up in slings, but lowered again. She remained in the same condition till September 24th, when, the door having been left open, she got up and walked out. She had been down for twenty-two weeks and four days in all. She has been able to get up and down freely ever since, but rolled a little in her walk. There were no sores on her.

Case II.—A big blood hunter in what appeared to be a perfectly hopeless case of internal hæmorrhage. The animal was of very nice quality, five years old, and measuring 16.3 hands. Mr. Over was called in on May 30th last, and the history of the case, as given to him, was that the horse was turned out into a field with some polo ponies on the previous day, and in the morning it was found down and unable to rise. A passer-by stated that he had seen one of the ponies kicking at it. There was a contused wound on the top of the croup, and it was afterwards found that the last rib but three on the near side was broken about half-way up, though there was no mark on the skin at that point. The kicking did not appear to have been very much. The horse was lying on its off side, and was breathing very jerkily, and opening and shutting its mouth spasmodically. The visible mucous membrane of the eye, nose, and mouth were white, and the pulse was quite imperceptible. The animal made attempts to get up on its forelegs, but never succeeded in getting even its chest off the ground. It lay back absolutely exhausted, and he (Mr. Over) told the owner that it was a case of severe internal hæmorrhage, and that he did not think that anything could be done to save it. A hypodermic injection was given, and an hour afterwards an attempt was made to administer a drench of whisky and Ammonia, Nux vomica, and Digitalis, but very little could be got down, as the animal practically fainted and was unable to swallow. He then had it rugged up well, bandaged, etc., and went away. Returning two hours later with some adrenalin he found the condition of the patient to be just a little more hopeful. The pulse was still quite imperceptible, but the buccal membrane had a faint pink tinge round the borders of the teeth. He gave another injection of ether and one of adrenalin mixed with some normal salt solution. He called about two and a half hours later expecting to find the animal dead, but it was then up, and although very unsteady was walked about sixty yards with a man on either side into a big loose box. It had another injection of adrenalin, and stimulants consisting of ammonia, nux vomica, and digitalis. The injection of adrenalin was repeated twice next day, and once the day after that; the further treatment consisting of the stimulants already mentioned and careful nursing. The animal gradually improved, and was on a fair way to recovery on June 10th, when he ceased to visit it. One or two abscesses formed in the neck, probably from the injection of ether. An extraordinary circumstance was that he lost sight of the horse, as it left the neighbourhood, but about a month ago he was sent for to see it at a place about a hundred miles off, though he did not know when he was called that it was the same horse he was going to attend. Its heart was not then quite right, and there was a little intermittence in the pulse, but there was nothing else the matter, and it had been doing a little work. When seen again about a fortnight later it was fifty per cent. better.

Mr. REYNOLDS described the first case mentioned by Mr. Over as a very peculiar one. It was usual when a

cow went down and some attempt was not made to get it up, or if it was got up and it did not stand, to find both hind legs swollen, degeneration and abscesses; and the animal generally died from septic trouble in a fortnight or three weeks afterwards.

Mr. GOLD asked whether Mr. Over attributed the good results in the second case to the adrenalin?

Mr. BROOKE: Was any definite conclusion formed as to the seat of the hæmorrhage?

The HON. SEC.: How did Mr. Over know there was hæmorrhage?

Mr. PARKS: What was the bedding in the cow's box?

Mr. OVER, replying to these questions, explained that the cow was in a hovel and there was plenty of clean straw for bedding, which would largely account for the absence of bruises. He agreed with Mr. Reynolds that in most cases of this kind there was degeneration, but it did not occur in the one under notice.

As to the hæmorrhage in the hunter, he thought at the time that there was a rupture of the liver and that the capsule had given way. He did not know where the blood went, but it all disappeared. He was afraid the hæmorrhage might break out again. He had galloped the horse well twice since, and he believed that the difficulty was all over, and that if the horse was placed before a dozen veterinary surgeons to examine they would pass it as sound if they did not examine its heart. Mr. Over added, in answer to Mr. Gold, that the pulse was still intermittent after galloping, but nothing like so noticeable as before.

Mr. BROOKE: Why should it be intermittent after hæmorrhage?

Mr. OVER said that he could not understand. The horse got better when given the adrenalin and that was all he could say. It was injected twice on the first day, twice again on the following day (May 31) and once the day after (June 1), and once again the next day (June 2). He considered either to be a very good thing in these cases. He could only remember one similar recovery in a case in which it was practically certain there was internal hæmorrhage, and in that instance the animal went perfectly blind.

"DOPING" RACE HORSES.

Mr. PARR spoke on the duties of an honorary veterinary surgeon at race meetings. He officiated in that capacity at Leicester races, and on two occasions had been asked by the stewards to examine a horse which they thought had been doped. He refused, and now he wanted to know what other practitioners would have done. He was asked if he could tell whether a certain horse had been doped, and he replied that he could not. A younger man might have been led to examine the horse and give an opinion, but unless he knew more than he (Mr. Parr) about doping it might have led to serious consequences.

CERTIFICATES ON DEATHS FROM LIGHTNING.

Another matter which he desired to mention was the giving of certificates in cases in which horses were believed to have been struck by lightning. On one occasion he was asked to examine a horse worth £200 and insured for £100, which was said to have been struck. It was paralysed, but he could see nothing upon which to base the opinion that it had been struck, and he came to the conclusion that, frightened by lightning it had run against a tree and so caused some fracture of the vertebræ. As a matter of fact such a fracture was found after death. There was no external burns, nothing except the paralysis, which they did get from lightning. What ought one to do in such a case in order to be fair both to one's client and the insurance company?

CERTIFICATES ON "TRIMMED" DOGS AT SHOWS.

Again, when officiating at a dog show, he was asked

for a certificate that a certain dog had been trimmed. He declined as it was not a veterinary point at all, but one which it was the judge's duty to decide.

THE TITLE OF "PROFESSOR."

Mr. PARR was strongly of opinion that no man ought to call himself "Professor" when he was only in ordinary practice. A professor was a man occupying a chair of teaching at a college or school, and when he left that college or school he ought to drop the title. It was as great a form of advertising as if a man advertised that his colic drinks were the best. There were a number of men who had left off teaching and who, in his opinion, were trading on the title of "Professor."

The HON. SEC., alluding to the lightning case quoted by Mr. Parr, suggested that the vertebræ might have been broken by the animal falling after being struck by lightning.

Mr. PARR agreed, but said the point was whether the practitioner called in should give a certificate that the horse had been struck by lightning.

Mr. REYNOLDS stated that after a heavy thunderstorm in his neighbourhood he was called to see several animals and found distinct evidence of lightning. The farmer explained that three cart horses which were under a tree fell down and were supposed to have been struck. While two got up apparently uninjured, the third showed every symptom of partial paralysis of both hind legs, but there was no singeing of the hair. Some one afterwards gave a certificate that it was probably caused by lightning, but there was no sign of injury.

Mr. BAINBRIDGE said that in a case which had come under his notice some sheep sheltering under a hedge were supposed to have been struck by lightning, but there was not a single mark of singeing. That they were all killed by lightning was evident when the carcasses were skinned.

Mr. PARKS pointed out that if there was any doubt in such cases most insurance companies were satisfied if the veterinary surgeon stated that the symptoms were consistent with what he would expect if the animal had been struck by lightning.

With regard to the use of the title "Professor" he thought it was applied generally as an act of courtesy.

Mr. TAYLOR replying to Mr. Parr's question as to the duties of a veterinary surgeon at a dog show, mentioned that it was laid down in the Kennel Club rules that if a dog had been cropped or docked, or if there was any deviation from the normal, it was for the veterinary surgeon to certify, should the judge call upon him to do so.

SAND IN THE INTESTINES.

The PRESIDENT said he had had a number of gripe cases during the past few weeks. On two farms on the same estate with a very sandy soil, seven and five horses respectively were affected. The seven all got well, but two of the five were very ill indeed for a time, though they eventually recovered. When their bowels became open he was surprised at the appearance of the dung, and found it was nothing but clear sand. They dunged nothing but sand for two days. Two years ago a horse at the same farm was taken ill and died, and at the post mortem two buckets full of sand was found in it. The only explanation he could suggest was that the grass was very short owing to the dryness of the season, and in nibbling at it the horses took up the sand. There was also a low pool on the farm with a sandy bottom and when the animals went to this to drink they pounded the water and probably drank sand in with it. Two seasons ago, however, the grass was not short. Another farm four or five miles away was very sandy, and there a horse had died in the same way.

Mr. TAYLOR stated that in camp on the Devonshire

Downs during the summer, the horses nibbled in the lines and took up a lot of sand. The stomach of one which died, when a post mortem was made, was found to be half full of sand.

This concluded the afternoon's discussion, and in proposing a vote of thanks to the members who had contributed essays and specimens, the Hon. Secretary said he thought a meeting of that description once a year would prove extremely interesting and useful.

On the question of treatment of acorn poisoning, he suggested that the two members who had dealt with the trouble extensively should collaborate in producing a paper setting forth a successful treatment.

Mr. BURCHNALL seconded, and the motion was carried unanimously.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

NORTH OF IRELAND VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held in the Clarence Hotel, Ballymena, Co. Antrim, on Thursday evening the 16th November, at 5 o'clock p.m. In the unavoidable absence of the President, F. W. Emery, F.R.C.V.S., the chair was occupied by the Vice-President, Howard McConnell, M.R.C.V.S.

The following members were present: Messrs. Robert Kernohan and John Kernohan, Ballymena; J. A. Thompson, J.P. Lurgan; J. J. Ross and J. A. Jordan, Belfast; John Gault, Ballymoney; Gordon Stewart, Ballymena.

Apologies were received from Messrs. J. Ewing Johnstone and W. C. M. Smith.

The minutes of the previous meeting having been read and confirmed were signed.

The SECRETARY read a communication from Mr. A. M. Creighton, Lisburn, resigning his membership of the Association, and it was unanimously decided to request Mr. Creighton to reconsider his decision.

A letter was read from the Editor of *The Veterinary News* (H. A. Woodruff, M.R.C.V.S.) re the fund for assisting Mr. Kirk in the appeal raised by the L.C.C. to compel veterinary surgeons to pay tax for the use of the College crest: and requesting financial support either from the Association or from both it and individual members.

It having been pointed out by the Treasurer, that of late a great many demands had been made on the funds of the Association, and that in future we would require to exercise a little more economy, it was resolved that the Secretary be requested to write and express regret that as an Association we cannot see our way to subscribe, but that we wish every success to the effort.

A letter was read from the Secretary of the Royal Sanitary Institute intimating that the next Congress of that Institute would be held in York next year, and inviting this Association to appoint delegates. No action was taken in the matter.

Messrs. Thompson and Jordan verbally submitted their report in connection with the Public Health Congress, held in Dublin: it was considered satisfactory, and was passed.

AFFILIATION WITH N.V.A.

An interesting discussion took place as to the position this Association was going to take with reference to the amalgamation scheme. Mr. Thompson, having spoken at considerable length, and having thoroughly considered the question in all its bearings, proposed the following resolution, which was seconded by Mr. Robert Kernohan, J.P.: "That the Association adopt the amended

rules and take the necessary steps to affiliate". This was passed unanimously.

At this stage the Secretary read the following communication which he had received from the President (F. W. Emery, F.R.C.V.S.) who had kindly consented to read a paper:

"Dear Mr. Jordan,—I shall be unable to attend the meeting at Ballymena to-morrow, as I have to go home this evening owing to the very serious state of my father's health. I am forwarding you the paper I prepared, it is in the rough, and owing to the adverse circumstances under which it was written I am afraid it is of little merit."

The SECRETARY was requested to write expressing sincere regret at the sad circumstances under which the President was prevented from being present.

At the request of those present Mr. Jordan read the paper prepared by Mr. Emery.

THE RELATION OF VETERINARY SCIENCE TO PUBLIC HEALTH AND AGRICULTURE.

By Mr. F. W. EMERY, F.R.C.V.S.

The application of every branch of veterinary science has a very decided bearing on the well-being of the community. In conserving life and promoting animal health; in improving the general standard of our animal population, in preventing their undue abuse in transit; in eradicating infectious and contagious disease; and finally, in bringing our knowledge of comparative pathology into use in connection with meat inspection, we are constantly working for the material prosperity of the nation and at the same time protecting and safeguarding the health of mankind.

I am sure we are all familiar with instances in which, by the ability and industry of the members of one or more generations of a family, great wealth has been amassed: but owing to all concentration and thought having been devoted to this one object the health of the workers and their dependents have been ignored, with the result that ill-health and disease have been allowed to gain such footholds as to be ineradicable, and, all too late, it has been recognised that power and wealth are but poor substitutes for that greatest of all blessings—health. That which is true of the individual family may also be true of a nation, taken as a whole, and if we give the matter a little consideration, I think it will be brought home to us that in our own country this striving after material prosperity has taken too great a hold of all. If we take an intelligent interest in the happenings taking place around us, or if we even take but a cursory glance at our daily papers, we cannot fail to observe that those who are combined to form Governments, and those who are combined in opposition to those Governments, are all combined in endeavouring to persuade the public that on the adoption of their particular ideas the material prosperity of the nations depend. We seldom, if ever, see any of our great leaders devote a few minutes to telling their admirers that wealth without health is a delusion and a snare, and that in the building and maintaining of a nation it is absolutely essential to make and enforce provisions for the prevention of disease and for the propagation of a vigorous healthy race. If these essentials are attained, wealth and prosperity must follow as surely as day follows night.

There can be no two opinions as to the necessity for the creation of a State Department of Public Health. If we had a Minister of Public Health upon whose shoulders would rest the responsibility for the workings of the Public Health Service, great and good results would be quickly manifest.

The veterinary profession has already rendered inestimable services to the cause of public health, and I am

confident our profession is destined to play a great part in the future in protecting the community from preventable disease, more especially in so far as those diseases are concerned that are intercommunicable to man and beast.

The present day veterinarian, owing to his unique and and thorough knowledge of our domesticated animals, both in health and disease, by his close observation and clear understanding of the various phases of the many infectious diseases from which they suffer, and as a result of the very efficient manner in which he has been grounded in anatomy, histology, physiology, pathology, and bacteriology, is in a position to offer invaluable advice to those charged with public health administration. Moreover, he is the only professional man in the British Isles who is entirely competent to discharge the onerous and important duties of meat inspection and dairy herd examination. Efficiency in these departments can only be secured by placing them under the direction and control of a veterinary service of health. In my opinion the time has more than arrived for the establishment of such a service, and the following quotation from a recent speech of Sir William Turner, K.C.B., the very distinguished principal of that great seat of learning, Edinburgh University, is ample proof of the correctness of that view. He says: "It is clear that the veterinary profession is now called upon to take a wide grasp of questions affecting the public health—the health of man as well as of animals. You cannot, indeed dissociate the public health of man from the public health of the animal, because there are so many infectious diseases that the animal can and does transmit to man, so that human medicine and veterinary medicine have a very close alliance and association with each other. Therefore we must now look at the veterinary profession as a profession which is not only concerned in, if I may say so, the doctoring of animals, but which has to do with disease of various kinds in its wider aspect, embracing man and animals."

Efficiency and economy are co-efficients, and in order to secure the very best results in meat and dairy inspection, you must apply similar regulations to the country as a whole. You must establish an uniform service with uniform administration enforcing uniform action; to this end, regulations providing for a certain amount of individual discretion should be drafted for general guidance. In support of the adoption of an uniform system of meat inspection I cannot do better than quote from the report of the Royal Commission on Tuberculosis (1898).

"The evils arising from this want of uniformity are manifold. Very strong representations were laid before us on the part of the butchers and meat traders, and also on behalf of agriculturists who supply the butcher, as to the effect of this want of uniformity upon their business. It is obvious, we think, that these complaints are well founded. Producers and traders are making no unreasonable demand when they ask that a recognised standard should be observed, and that meat which after inspection is pronounced fit for sale in one market should not be liable to seizure in another, because the inspecting authority happens to differ in opinion as to the extent to which tuberculosis may be dangerous."

A very able article on meat inspection which appeared in the January number *Journal of Meat and Milk Hygiene*, concludes with the following suggestion:—"The central authorities must exercise a controlling influence over the work of local inspectors, and that can only be done by the appointment of a veterinary surgeon as the supervising officer, who prior to his appointment must have had practical experience in the work of meat inspection." The adoption of that recommendation would go a long way towards securing that uniformity which is not only desirable but absolutely necessary.

MEAT INSPECTION.

Dealing with meat inspection, I suggest that meat stamping is an essential: I also suggest that meat should be graded into three classes and marked accordingly.

First Class.—Should include all meats found absolutely free from disease, and in connection with which every reasonable precaution has been taken to prevent surface or other contamination.

Second Class.—All meats of inferior quality and of less nutritive value than those in Class I, but which have been found free from disease.

Third Class.—All meats some portions of which have been found to present evidence of disease, but from which it is believed all elements of danger have been removed by the extirpation of the affected tissues.

It will be observed that I do not suggest the use of the carcasses of diseased animals in cases in which it may be found injudicious to attempt the separation of disease lesions from healthy structures. In many Continental cities such carcasses are subjected to a special process by which all noxious organisms are rendered inert. Such meat is sold at a very low figure, and can be obtained only at places specially set apart for its sale. By this means it is claimed that a meat having a certain amount of value as a food is made available for the very poor, such as, unfortunately, are to be found in all large towns. Apart from the revolting idea of feeding our people upon the products of disease, the appearance of the sterilized meat is far from enticing.

I would be very sorry to see any attempt made to apply such a custom to Great Britain and Ireland, which can boast of such enormous wealth. It would be far better to lay claim to some of this wealth for use in bringing a pure food to our markets to be sold at a price within the reach of all. At the present time a large quantity of good palatable food is destroyed simply because it has not been sold at a set figure placed upon it by a trade. I think such methods ought to be made illegal, and places should be provided in all large towns where such commodities could be offered and sold at whatever prices the poor may be able to afford.

The slaughter of all animals intended for the food of man should be carried out under the highest sanitary conditions. Absolute cleanliness of the persons employed, and the instruments used should be enforced. If a knife has been used for cutting into morbid tissues it must not be used on healthy structures until it has been thoroughly sterilized, otherwise sound meat may become contaminated. All carcasses should be subjected to examination as soon as possible after the animals are slaughtered, and those revealing no abnormal condition at once passed on to the cooling house; those manifesting conditions rendering the whole body unfit for human food should be moved forthwith to the destructor; any body not placed in either category to be labelled for detention and further inspection and sent into a special cooling compartment. In addition to this procedure, I hold that all uncondemned carcasses should be again inspected after "setting" and prior to removal from the slaughter-house.

After leaving the abattoir it is absolutely essential that the greatest care should be exercised in avoiding surface contamination. Thoroughly cleansed covered vehicles must be used in its conveyance to the retailer's premises which must also be arranged on up-to-date and sanitary principles. It will also be obvious that no unhealthy or diseased person should be permitted to handle meat or serve in any capacity in a butcher's establishment. If these latter precautions are not taken, the great care exercised by breeders and rearers in the production of healthy stock, and by the public health authorities in providing for efficient inspection, will be rendered nugatory.

As an example of want of care in avoiding surface

contaminations I would direct your attention to the pork trade of the North of Ireland, carried on, as it is, under most undesirable conditions. Pigs are slaughtered at the homesteads and their carcasses hung for "setting" purposes in a byre or outhouse, they are subsequently conveyed to market in ordinary farm carts, and the market place is often situated in the open street. If purchased for railway transit the railway trucks used may have been previously employed for any other purpose and need not have been subsequently cleansed or disinfected. In cities ordinary lorries are used, and in sea transit the bodies are stowed on the open deck exposed to all sorts of contamination. During the whole procedure the carcasses remain uncovered, and no thought is given to cleanliness.

In the actual work of meat inspection, I suggest that when any abnormal condition observed is proved to be due to any of the following causes, the whole carcass should be condemned: Malignant tumours (sarcomata, carcinomata, lymphadenoma), septicæmia, pyæmia, black quarter, anthrax, louping-ill, tetanus, erysipelas, pneumonia, pneumo-enteritis, croup, diphtheria, the various contagious and infectious diseases; generalized tuberculosis (indicated by milary tuberculosis of the lungs), general tuberculosis, probably the result of extension through the lymphatic system, tuberculosis of two or more important organs, and tuberculosis of deep-seated glandular structures; trichinosis, some cystic worms (*Cirrus cerebralis*, *Cysticercus cellulosus*, *Echinococcus veterinorum*, *Cysticercus bovis*, etc.); *Coccidiosis* (liver and intestines of rabbit); carcasses of animals that have died from any cause whatever, of course including accidents of parturition; newly-born calves; and all very old emaciated animals, the flesh of which can have no nutrient value—this especially applies to old worn out boars and bulls.

The conditions admitting the passing of portions of a carcass only must, to a great extent, be left in the hands of the professional officer, who will be in a position to accurately and scientifically weigh the evidence manifested by the appearance, extent and nature of the pathological lesions presented—lesions, the result of external violence, benign tumours, glandular tuberculosis with lesions indicating that they are primary and have not extended, and some forms of actinomycosis are amongst the conditions which most inspectors would feel justified in so classifying. At the same time I do not think it would be acting in perfectly good faith with the community to allow any carcass to be marketed as "first-class" if any portion of it has had to be extirpated. It should be remembered also that while cooking may destroy living germs, the process is not always efficient in minimising the effect of toxins.

INSPECTION OF DAIRIES.

The Dairies and Cowsheds Order has opened up another field in connection with public health work in which the veterinary surgeon's services are essential if efficiency is to be attained; but here, again, uniformity of action is needed, and, in view of the fact that milk is frequently produced at places far distant from where it is consumed, and that there are very grave objections to granting the right of entry to one local authority into dairies situated in the district of another authority, it seems to me to be imperative that a legislative measure should be passed having universal application and compelling uniformity of administration.

The report of the last Commission on Tuberculosis affords ample proof of the absolute necessity for such legislation, as the following extracts will show:—

"There can be no doubt that a considerable proportion of the tuberculosis affecting children is of bovine origin, more particularly that which affects primarily the abdominal organs and the cervical glands; and further, there can

be no doubt that primary abdominal tuberculosis, as well as tuberculosis of the cervical glands, is commonly due to ingestion of tuberculous infective material."

"The evidence which we have accumulated goes to demonstrate that a considerable amount of the tuberculosis of childhood is to be ascribed to infection with bacilli of the bovine type, transmitted to children in meals consisting largely of the milk of the cow."

"But it must be remembered that we have found cases of tuberculosis in adult man sufficiently extensive to incapacitate the patient from the ordinary duties of life, and in two instances ending fatally, in which we were able to attribute the disease solely to the effect of the bovine bacillus."

The work of the veterinarian under this Order is more particularly directed towards the byres and the general condition and health of the cows. There is little or no difficulty in advising as to new structures, but unfortunately we are not likely to be often consulted in this respect. Our more frequent duty will be to offer suggestions as to the best methods of altering existing buildings, so as to bring them as nearly as possible into conformity with up-to-date principles and ideas. As a brief outline, I would suggest that all floors and walls should be rendered impermeable, that the surface of both should be of such a nature as will admit of thorough cleansing, that all inside drainage should be surface, with channels leading to traps situated outside the sheds. Manure pits should be situated at a sufficient distance from byres as to prevent air contamination; they should be impermeable to moisture, away from houses, wells, or water supplies. As much cubic space as possible should be allowed for each animal; this is very important, because the greater the cubic space the less often will it be necessary to flush the compartment with pure air, and consequently a more equable temperature can be maintained. Adequate arrangements must be made for the ingress of pure and the egress of impure air.

INSPECTION OF COWS.

Probably the periodic examination of the milk producer will be considered our more important duty, and I need hardly say that it behoves us to put forth our best endeavours to secure the best results. Every animal kept in a dairy should be in a state of perfect health, and should any deviation from that state be observed, the ailing beast should be removed and isolated forthwith. The period of isolation must depend upon the cause, but in any case the segregated animal should not be again brought into contact with others until the veterinary inspector issues a health certificate for it. The milk of isolated animals should not be used for human consumption, nor for any other purpose, unless it has been sterilized by boiling or otherwise. That the boiling of milk does not remove all source of danger is clearly shown by the following extract from a very able article in *The Hospital* by Dr. H. J. Hutchens:—

"Poisoning by bacilli of the enteritides group generally takes the form of septicæmia. The bacilli can be recovered from the blood during life and from the spleen after death. But organisms of this group give rise to a highly thermostable toxin which will resist boiling for some little time. This is a matter of considerable practical importance, because it can be readily understood that these organisms might be present in milk, for instance, in which they would multiply and produce their toxins. If milk were heated before being used as food the bacilli might be destroyed while the toxins remained, and these latter might then give rise to acute symptoms of gastro-enteritis in those who consumed it."

And now, in concluding this portion of my address, and in support of my contention that a much more rigorous system of inspection than now exists should be

inaugurated without delay, permit me to again quote from the Royal Commission on Tuberculosis:—

"In the interests, therefore, of infants and children, the members of the population whom we have proved to be especially endangered, and for the reasonable safeguarding of the public health generally, we would urge that the existing regulations and supervision of milk productions and meat preparations be not relaxed, but on the contrary the Government should cause to be enforced throughout the kingdom food regulations planned to afford better security against infection of human life through the medium of articles of diet derived from tuberculous animals."

Agriculture and the art and science of veterinary surgery and medicine stand in very intimate and practical relationship. It would be a rather difficult task to form anything like an accurate estimate of the value rendered to the "world's oldest profession" by members of our calling, because, in so far as the work of the general practitioner is concerned, we have no available data to go upon; but unquestionably the benefits conferred have been enormous, and if they could be translated into a monetary equivalent the total would reach a very large amount. But, apart altogether from this aspect of the matter, we have more than established our claims and rights to the utmost consideration, from the great fact that much pain and suffering have been saved our domesticated animals by the application of our skill and knowledge in the treatment of their injuries and diseases.

The following extract from the writings of a distinguished agriculturist of fifty years ago speaks for itself, and may with equal relevance be applied to our own time:—

"Associations have been formed and colleges founded for the advancement of veterinary science, and eminent practical professors are engaged in the dissemination of its principles, so that it has now taken a very elevated position. Its practice is no longer left in the hands of the uneducated and unskilful; the horse, the dog, and beasts of the farm generally are no longer subjected to the tortures of callous-hearted and presumptuous ignorance, but are placed under the care of gentlemen who have gained the general respect of the community and the confidence of those with whom they come in immediate contact, and whose experience, intelligence, and humanity entitles them to the onerous position their profession calls upon them to fill."

It may not be uninteresting to you if I quote examples of treatment adopted in the latter part of the seventeenth and early part of the eighteenth centuries. For instance, for animals suffering from farcy, medicine was ordered to be administered to the ears of the horse and drawn up therein, and for certain lamenesses it was advised that a turf should be cut and secreted, and in proportion as the turf decays and wastes away so shall the lameness of the horse gradually depart. These quotations clearly show the vast amount of suffering to which animals were subjected owing to the crass stupidity and ignorance of those into whose care they were entrusted; they also afford a means of estimating the great boon conferred upon animals by the establishment of our profession.

In the early part of the eighteenth century many medical men began to take an interest in veterinary medicine, and works on farriery of that period show a distinct advance, and were mostly modelled on Continental systems and teachings. During this period veterinary literature was fairly abundant in France, Germany, and Italy, but comparatively few works were translated and made available in these countries. The establishment of the London Veterinary College in 1792 may be taken as the actual birth of our profession in so far as these islands are concerned, and although in its earlier days the College experienced many vicissitudes it gradually

worked its way into public esteem. Now, looking back on this long vista of years, I think the veterinary profession has every reason to be proud of its achievements, for though, but limited in number and not overburdened with wealth, our progress has been phenomenal. We may have been equalled by others, we certainly have not been excelled.

In connection with the prevention, control, and eradication of infectious and contagious diseases, it would be quite possible to afford an approximate estimate of the actual monetary value rendered to the state owing to the preserving and safeguarding of animal life, and the prevention of dislocation in the various trades which are dependent on animals and animal products, and while it is not my present intention to offer you the result of my many computations, I can say, without the slightest fear of contradiction, that veterinary science has conferred and is conferring inestimable benefits on the community. The present generations have little knowledge of the terrible ravages caused in these countries by the prevalence of animal diseases, and so they are apt to overlook the necessity for preventive measures, but it should never be forgotten that our flocks and herds have been decimated on more than one occasion by the introduction of infection, and it is a matter for the sincerest congratulations that the following diseases have been stamped out of Ireland: Cattle plague (1877), Foot and mouth disease, Pleuro-pneumonia, Rabies, Glanders, and Epizootic lymphangitis, and White swine fever. Anthrax and Sheep scab still remain; they are probably under more direct control; they provide many knotty problems for solution which I have no doubt will be answered satisfactorily. By continued study and investigation we may practically rest assured of ultimate success.

There are a number of diseases that might be scheduled under the Contagious Diseases (Animals) Acts with advantage. I think we are all agreed as to the inclusion of contagious abortion and tuberculosis. Of the former, I do not think it is by any means so widespread in Ireland as some would have us believe. Still, it is by no means a negligible quantity, and, as individual effort is quite insufficient to cope with its ravages and reduce the loss which it occasions, a united effort is called for. No apology need be made for insisting on the State control of tuberculosis. Public Health authorities have shown it to be a source of great danger to mankind, and that it is the cause of considerable loss to the agriculturist is admitted. Why, therefore, do we not take some practical steps to limit and remove the danger, and also put a stay upon the drain of national wealth caused by its widespread existence? Our present apathy in this respect is most extraordinary and almost criminal.

As members of the veterinary profession, I think it is our obvious duty to press this matter; we should lose no opportunity of explaining to those with whom we come in contact the nature of and dangers associated with this affection, and also that with perseverance, rigidly following a certain code, and by the aid of tuberculin, it is quite possible to stamp it out. It cannot be too strongly impressed upon stock owners that the focus of infection is, as a rule, an infected animal, and that unless the causal organism is present, other conditions—such as in and in breeding, insufficient food, excessive milk production, darkness, dirt and other adverse circumstances—cannot give rise to the disease; nor can cleanliness, fresh air, light, and exercise entirely prevent animals from contracting it if they are exposed to infection.

In order to successfully compete with his foreign rivals the British farmer must keep abreast of the times; with him, as with all others, education is the keynote of success. Can we render assistance? I think so. Some time ago veterinary lectures for farmers were inaugurated, and had they been conducted on right lines much

benefit might have been conferred; but I understand that these addresses usually resolved themselves into discussions on diseases and their treatment, prescriptions being asked for and given. I think evil rather than good would follow such procedure, because, as every professional man must know, it is only possible to indicate a proper line of treatment after close observation and an exhaustive examination of the patient. From these the trained clinician must make many deductions before he can suggest a course of treatment, or give a prescription, likely to be beneficial.

In lecturing to laymen the veterinarian should first address himself to sanitation and hygiene, and going further afield he might give his audience sound information on the best means of exterminating such pests as the warble, sheep scab, and redwater. It would be useful and interesting to explain how sheep dipping may be utilised to aid in the eradication of redwater in cattle. Farmers should be told of the means adopted in other countries in these connections, and the enormous saving that would accrue to our country should success be attained.

Then the important question of how to improve the breeds of our flocks and herds affords great scope for the instillation of new ideas and methods in our lectures. The improvement of our dairy herds is a crying necessity, and our farmers must exert themselves if they are to advance or even retain their position in the butter markets.

It is essential that our dairy owners should keep accurate records of the quantity of milk yielded by each cow; by this means unprofitable animals could be detected and at once disposed of. The Danes discard, for milking purposes, any cow not yielding over 600 gallons per annum. The cows with a higher yield are used for breeding, and by a gradual raising of the minimum yield, the average yield on many Danish farms has now been raised to 1,000 gallons per cow per year. It is almost as cheap to keep a cow yielding 1,000 gallons per annum as one yielding 400 gallons. Many of our cows do not yield more than this latter quantity. If the Dane can obtain as much profit from two cows as we do from five, it cannot be difficult to understand why he is driving us out of the markets. It is within our province to instruct agriculturists on this and kindred topics, such as the proper and efficient marketing of animals and animal products.

In conversing with our agricultural friends we should press the necessity for the establishment of experimental stations and laboratories. A properly equipped station situated in each province under the control of an efficient director would undoubtedly confer inestimable benefits upon the community. Amongst other questions, there is a wide field open to investigators in connection with that new branch of therapeutics known as serum-therapy, which has already afforded good results, and is full of promise. There never was a time when the scientist was more called for. Of course, I do not by any means suggest that he should in any way take the place of the clinician, for both are essential to true progress—the one, as useful as the other—and I am very pleased to observe that Professor Stockman, of the English Board of Agriculture, appears to think likewise. It is a very happy augury for the future to see a gentleman of his high attainments seeking information and help from the general practitioner, and admitting that the true test of his investigations is their adaptability and usefulness for general practice. It is an acceptance of the truism that the theory of to-day must be established by the procedure of another day, and the success or failure requires the wholesome filtration of discussion before any fact can be satisfactorily established.

In courtesy to the President the discussion was deferred until our next meeting, and Mr. Jordan consented to open it.

On the motion of Mr. Robert Kernohan, J.P., seconded by Mr. John Gault, a hearty vote of thanks to the Chairman was enthusiastically passed.

After the meeting the members were entertained to high tea by the Messrs. Kernohan, which was served up in a very creditable manner by Mr. John Henry, Clarence Hotel, Ballymena, and very much enjoyed.

J. A. JORDAN, Hon. Sec.

PARLIAMENTARY.

In the House of Commons, on Tuesday, Dec. 5.

COAL MINES BILL.

Capt. JESSEL (St. Pancras, S., Opp.) moved an amendment in the third schedule providing that no horse should be taken underground until it was four years old and until it had been tested by a "duly qualified veterinary surgeon."

Mr. MASTERMAN accepted the amendment.

Sir A. MARKHAM complained that the veterinary surgeons had been "log-rolling" hon. members in order to get support for their appointment. His fear was that these veterinary surgeons as well as members of the medical profession might set up "rings" and boycott persons who did not come up to their qualifications.

The amendment was agreed to.

On the motion of Sir F. BANBURY the Schedule was amended by substituting 15 for 20 as the number of horses to be under the care of each horsekeeper.

Mr. BUTCHER (York, Opp.) moved an amendment to provide that every horse that has to be destroyed shall be destroyed with the least possible delay.

Mr. McKENNA pointed out that the Bill required that suitable appliances for the destruction of horses requiring to be destroyed shall be provided and kept readily available for use. It was unreasonable to go beyond that requirement.

The House divided and there voted—

For the amendment	126
Against	195
Majority against	—69.

Mr. BUTCHER moved that no blind horse shall be worked in a mine. He said that many witnesses expressed their opinion that there was serious cruelty in working a blind horse at all, but almost all were agreed that if one had to be worked, it should be led and only used in light work. Inasmuch as in many cases it was difficult and even dangerous to the boys to lead these animals, the only remedy was to exclude them altogether.

Mr. MASTERMAN pointed out that, if these ponies were prohibited from working in the mines, the only alternative was that they would be destroyed. (Hear, hear.) The Royal Commission did not contemplate that with the same enthusiasm as the hon. member for Denbighshire. The Chief Inspector of Mines told him that, in some respects, these blind ponies had many advantages over ponies that had eyes. (Opposition laughter)—the hon. gentlemen who laughed so contemptuously were probably not acquainted with the conditions under which these ponies worked—and that a considerable number of accidents took place through horses which had their sight being frightened by a sudden light. No kind of evidence had been brought before either the Royal Commission or the Committee upstairs to show that there was any cruelty in the use of these blind ponies in mines.

Mr. C. BATHURST (Wilts, Wilton, Opp.) supported the amendment.

Mr. G. GREENWOOD said he was surprised to hear the

Under-Secretary say there was no evidence of cruelty to the horses. Witness after witness examined before the Commission testified that there was cruelty.

SIR A. MARKHAM said he had been associated with the mining industry for many years, and he had not seen any injury caused to a blind horse. Personally, however, he did not object to the amendment, and the Government would do no harm by accepting it. (Cheers.) But he asserted that the horrors which had been described as occurring in mines in respect of the blind horses was untrue. He could show hon. members stone-blind horses that had been working in mines for 20 years, and there was not a mark upon them.

Mr. McKenna said the amendment would cause a charge to be thrown upon colliery owners, but the only colliery owner who had spoken said he had no objection to bearing his share of it. He was prepared to accept the amendment.

The amendment was agreed to.

The Bill was read a third time, amid cheers.

Personal.

MR. W. WILSON, the well-known Veterinary Surgeon, and Mrs. Wilson were recipients of numerous congratulations on Sunday, November 19, on the occasion of their golden wedding, with hearty wishes for continued health and happiness in the evening of their days. Mr. Wilson married shortly after he settled in Berkhamsted. He was first in association with Mr. William Cooper, and afterwards as his successor as veterinary surgeon. During the long period since then Mr. Wilson has been intimately associated with the life of the town and district, and though Captain A.C. Wilson, his son, is now responsible for most of the professional duties, Mr. Wilson is still regularly to be seen driving about the district following his profession. All his sons, we believe, have copied his example in choosing a veterinary surgeon's life, and all are doing well in their profession in different parts of the Empire. Mr. Wilson has been one of the leading Masons of the district for many years, and he has done useful work for a long time as Chairman and Treasurer to the Town Hall Committee. Mrs. Wilson, too, has taken a keen interest in the Girl's High School, of which she has been a governor since its commencement in 1888.—*The West Herts and Watford Observer*.

MR. HAROLD SESSIONS, F.R.C.V.S., of Lawn Lodge, Dawlish, Devon, author of works on "Cattle Tuberculosis," Veterinary Inspector to the Royal Agricultural Society, and for some time connected with the Remount Department, who died at Shortlands, Kendal, on the 10th September last, aged 45 years, left estate valued at £5577 7s. 2d. gross, with net personalty £3807 8s. 2d. Probate of his will dated 17th December, 1908, has been granted to his brothers, Mr. Wilfred Sessions, Kendal, and Mr. Walter Sessions, Cardiff. Power is reserved to grant probate also to his widow, Mrs. Emma Sarah Belinda Sessions. The testator left all of his property to his wife for life, with remainder to his children in equal shares.

OBITUARY.

ROBERT HENRY POTTS, M.R.C.V.S., Calle San Martin 159, Buenos Ayres, S. America. Edin: Jan., 1887.

Mr. Potts died on Nov. 12th. Aged 49 years.

EDWARD LAWRENCE, M.R.C.V.S., Swindon. Graduated, Lond: March, 1882.

Mr. Lawrence died on Saturday, 2nd instant, under tragic circumstances. The meet of the V.W.H. (Cricklade) Hunt was at Highworth, six miles from Swindon, and Mr. Lawrence travelled thither in his motor car.

He found the field on his horse as a move was being made to an adjacent cover, and was apparently in his usual health. He had just made a remark to an old friend, Mr. T. Hooper Deacon, concerning the horse which the latter was riding, when he exclaimed, "Oh! my head," reeled in his saddle, and fell to the ground. Dr. J. J. Powell, who was one of the hunting party, was speedily on the scene, but Mr. Lawrence's condition was clearly very serious, and with all haste he was placed in a motor car and driven to Swindon. Before the end of the journey was reached, however, he breathed his last.

Mr. Lawrence was well known over a very wide district, and was deservedly popular amongst the many sporting people whom he numbered in his friends and clients. He had, strangely enough just retired from the practice which he had followed in Swindon for 35 years, and had built a new residence outside the town in order that he might devote his entire attention to his important stud farm from which horses had been exported to many parts of the world. But the formal transfer to his partner, Mr. Frank Cundell, could not have taken effect until after Christmas. Although not a particularly old man he went to Swindon about 30 years ago. He had suffered two seizures previously. It goes without saying that his tragically sudden death is widely deplored. He was 51 years of age.

THE UPKEEP OF A MOTOR CAR.

Some instructive figures have been compiled showing the cost of running a powerful motor car. A few years ago the West Riding County Council resolved that the Riding Surveyor should be provided with a car to enable him to inspect the county roads and bridges more easily. This step was resolved on in the interests both of economy of time and money. No doubt the Surveyor's car covers great distances, and since the cost of its upkeep has never been challenged at the meetings of the County Council during the past year, it may be safe to say members do not regard the expenditure upon it as excessive. But it will surprise some people to learn that for the nine months ended last December the cost of running this one car—not taking into account the wages of the chauffeur or repairs to the house in which the vehicle is kept—has been no less than £561 13s. 7d. Details showing the cost of running the car for the last three quarters are appended:—

JUNE QUARTER.		£	s.	d.
Tyres, repairs, etc.,	Walter Judge	34	2	2
Accessories and repairs,	Daimler Motor Co.	18	13	0
Tyres, Continental Tyre Co.		141	18	11
Repairs, Wakefield & District Light Ry., Co.		10	0	
"	Beaumont and Saville	1	2	6
"	Joseph Hartley and Son	7	6	
"	James Holdsworth	5	10	
"	Grace and Sutcliffe	6	0	
"	W. Garland	3	3	
Benzol, Sadler and Co., Ltd.		19	14	7
Motor Oil, Butterworths, Ltd.		3	19	9
Breeches, etc., for drivers,	Thomas Kendal	3	8	6
Clogs, Alfred Dunhill, Ltd.		1	1	0
Total		£225	13	0
SEPTEMBER QUARTER.		£	s.	d.
Repairs, etc.,	Daimler Motor Co., Ltd.	70	17	3
"	Walter Judge	7	12	0
"	Beaumont and Saville	17	3	
"	A. Oakes and Son	15	0	
"	Wakefield & District Lt. Ry. Co.	8	0	
Benzol, Sadler and Co., Ltd.		27	15	6
Motor grease, Butterworths, Ltd.		1	3	6
Rubber mat, H. H. Gledhill		2	18	7
Disbursements, Quarter to June 30th, 1910,				
F. G. Carpenter		9	18	2
Total		£122	5	3

QUARTER ENDING DECEMBER.

Tyres, Repairs, etc., Walter Judge	...	34	17	0
„ Continental Tyre Co., Ltd.	...	111	13	2
Repairs, Joseph Hartley and Son	...	1	2	3
„ Daimler Motor Co., Ltd.	...	22	11	6
„ Wakefield & District Light Ry. Co.	...	9	6	
„ James Brown,	...	5	6	
Benzol, Sadler and Co., Ltd.	...	27	19	3
Motor Oil, Butterworths, Ltd.	...	4	3	9
Disbursements, Quarter to Sept. 30th, 1910,				
F. G. Carpenter	...	10	13	5
Total		£213	15	4

These items are taken from the County Council's own accounts as presented quarterly, so so that they may be regarded as official. Speaking roughly, therefore, it may be assumed that the West Riding Surveyor's car costs in renewals, repairs, and petrol anything between £700 and £800 a year.—*Yorkshire Post*.

VETERINARY LECTURES.

Sir,

My attention having been called to one of Mr. Mason's "great lectures" published in *The Leinster Leader* (a paper which I would not otherwise have seen) it struck me that if you could afford it space in *The Record* it might interest the profession and help to "spread the light" for the benefit of English and Scotch farmers, and thus place them on equal footing with their Irish brethren. It may also induce other practitioners here to secure and send you copies of Prof. Mason's orations delivered in other parts of the country, and enable us by a study of the collection to determine whether the Professor's lectures may not be all sufficient for stockowners' veterinary wants in the future, so that we may look out for some other mode of making a living, and

guard against the error of wasting money and destroying our children's prospects by sending them to study veterinary medicine.

Public lectures may not always contain all that is given away, for although some lecturers of this kind may be reserved in the way of giving extra hints, certain it is that further information will be solicited in the after lecture time.

It is all very fine to say "Oh! there are grand fields opening up in the way of research, etc., etc." The glory of bacteriology won't keep the pot boiling for the general practitioner. Between the scarcity of horses and their now few abnormalities, owing to sound breeding, there is little else left for us to do after what the professor is catering for in his lectures to the public.

It may be said that farmers will not be able to give the hypodermic injection which Mr. Mason prescribes, but I know differently, having observed how the chemist supplies and instructs him how to use the hypodermic, intratracheal, and other instruments.

Undoubtedly these lectures will gain for the Department of Agriculture much appreciation from farmers, many of whom set but little value on other branches of the Department's efforts. Were we satisfied that animal ailments would be as well cared for by their owners, we should not grudge that most deserving class—the farmer—the benefit of the turn which things are taking, but from our experience of the difficulty of successfully treating the patient which cannot speak, we know otherwise, and that were we cut out to-morrow the last stage would be infinitely worse than the first, hence the questionable advisability of shouldering us out.—Yours truly,

M.R.C.V.S.

P.S.—I would be glad if the subject would draw forth comments from some of your correspondents.

[Want of space prevents our reprinting the newspaper report referred to.—Ed.]

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.		Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.		
		Outbreaks		Animals				(including Farcy)		Counties Affected				
		Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Animals.	Out-breaks	Animals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered.	
Gr. BRITAIN.														
Week ended	Dec. 2	20		41			5	9			11	45	703	
Corresponding week in	{ 1910 1909 1908		25	33			3	17	Essex	4	14	35	416	
			23	24			14	21	Hertford	1	27	36	240	
			17	21			11	28			11	42	593	
Total for 48 weeks, 1911		829		1031		18	467	197	472	London	3	365	2277	27733
Corresponding period in	{ 1910 1909 1908		1343	1600	2	15	333	973	Middlesex	1	413	1395	13040	
			1199	1552			509	1702			561	1546	13591	
			1013	1315	3	112	741	2315			732	1935	12704	

Board of Agriculture and Fisheries, Dec. 28, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Dec. 2	...	...	...	...	...	...	1	5	5	3
Corresponding Week in { 1910	...	...	...	...	...	...	...	...	14	2	106
{ 1909	...	...	...	...	...	...	...	1	11	...	...
{ 1908	...	...	...	...	...	...	...	2	6	...	15
Total for 48 weeks, 1911	...	9	16	...	...	2	3	54	309	148	2347
Corresponding period in { 1910	...	7	12	...	...	1	2	63	419	88	2073
{ 1909	...	8	8	...	...	...	...	71	373	87	1562
{ 1908	...	7	10	...	...	...	...	38	331	331	3563

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 4, 1911

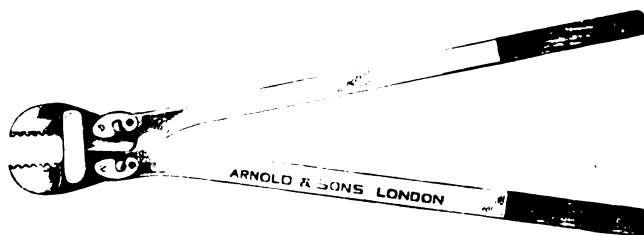
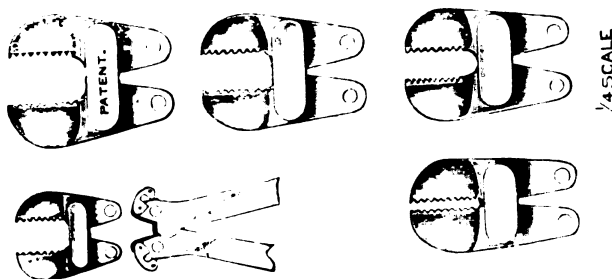
NOTE.—The figures for the Current Year are approximate only

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SOUTH MIDLANDS. A good-class practice in a first-rate sporting district is for immediate disposal. Satisfactory reasons for relinquishing. Returns represented as being over £450 p.a. PR. 119.

EASTERN COUNTIES. An old established practice in good agricultural district is for disposal. Represented as returning about £450. Low inclusive price for quick sale. Nice house and stabling, large paddock. PR. 118

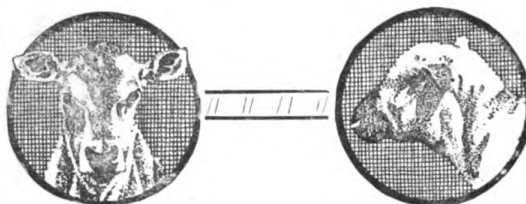
HAMPSHIRE. A partner required for old established practice in fashionable sea-side resort. Returns represented as close on £700. Premium for half share £300, which can be paid by instalments if necessary. PR. 434

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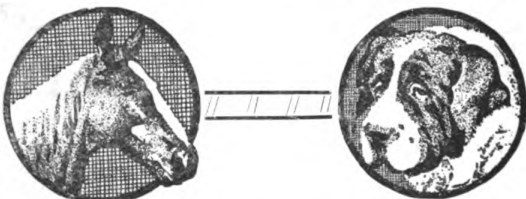
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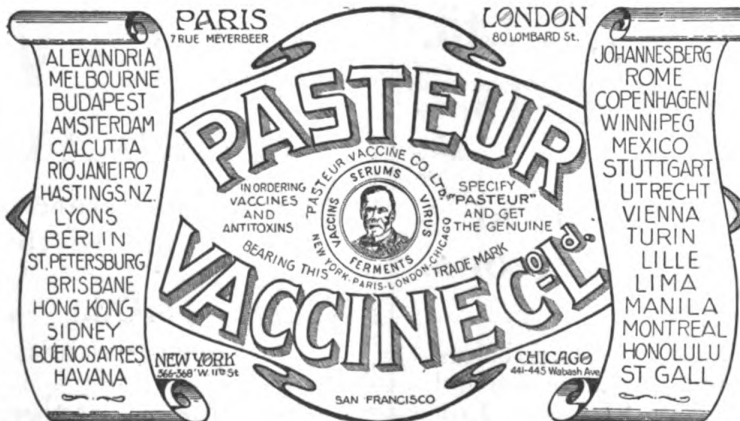
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SOUTH COAST. Country practice returning about £835 per annum, including appointments producing about £70. In present hands 24 years. The practice has been worked by an assistant who would remain if desired. Convenient house, rent £21, larger available if required. Premium £800.

IRELAND. Partner wanted to take charge of practice returning about £1200 per annum. Rent of premises £82 per annum inclusive. Contracts produce over £400 per annum. Practice has been in present hands 12 years. Premium required for half-share £500

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LONDON, S. Practice producing over £1000 per annum. In present hands nearly 40 years. Good house, with stables, kennels, etc. rent £70. The practice is principally dog with some horses and dairies. Vendor retiring. Premium one years purchase.

SURREY. Rapidly increasing, well-established practice returning about £1000 per annum. Small house with stabling, kennels, etc. Capital required, including valuation, will be about £1300. The practice is well-known to us and can be thoroughly recommended to a suitable man.

HIGH-CLASS mixed practice returning about £650 per annum. Good premises would be let on lease or sold if preferred. Premium £600.

SCOTLAND. Returning over £300 per annum. Expenses very low. Premium £120, or nearest offer.

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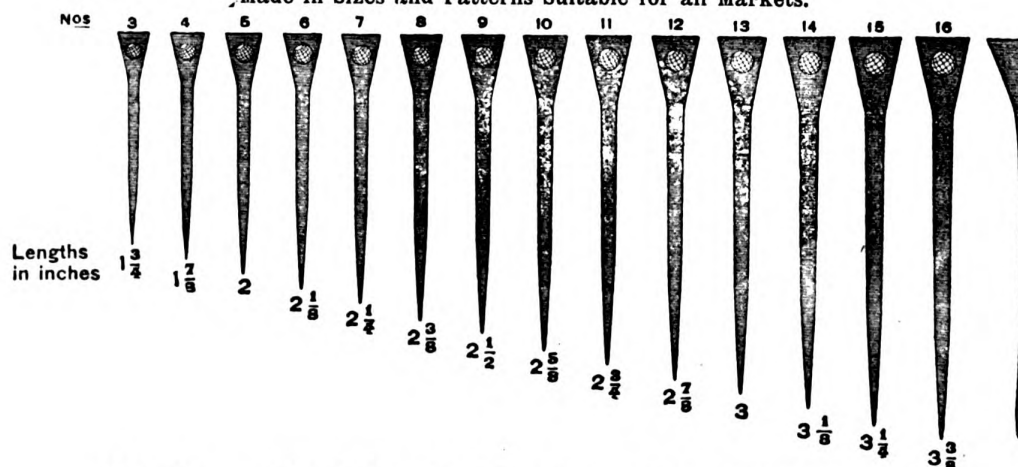
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The College Calendar, containing full particulars, will be forwarded on application to

The Secretary,

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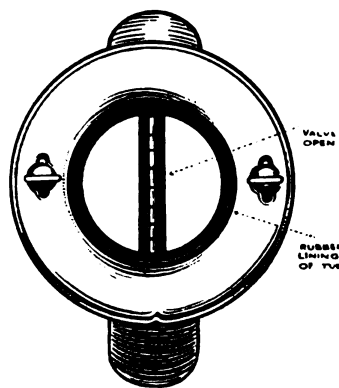
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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1223.

DECEMBER 16, 1911.

VOL. XXIV.

PUBLIC SUBSCRIPTIONS.

Many men annually spare a little from their incomes towards the needs of others. Veterinary surgeons often do so, but do not always remember that there are objects worthy of support within their own profession. At the end or beginning of a year we should recall three such objects which especially deserve and need annual subscription from veterinarians.

One is the R.C.V.S. itself. Three weeks ago we noted that Mr. G. Garnett had repeated his example of last year by sending a second year's subscription to the College funds. Others have since followed suit, and many more should do so. This, as we have said before, may well be regarded as simply anticipating the effect of the pending Bill. Under the present Parliamentary conditions a long time may pass before the Bill even obtains a hearing; its main provision is becoming more and more urgently needed, and should be established as a custom amongst us before it becomes law.

Next we have the International Congress Fund. The development of international veterinary communication, and the credit of the profession in this kingdom, are alike involved in the success of the great Congress to be held in London in 1914. But to ensure that success, a sum such as our members have never yet raised will be required. It must be raised within a comparatively short time, and can only be raised by the united efforts of the profession. We cannot, therefore, subscribe too soon.

Both these are temporary objects for support; and their claims are all the more urgent because temporary. A third and permanent object lies in our benevolent societies, which have never yet received their due meed of support from the profession. At this time of the year especially, members whose incomes will permit of disbursement may well spare a little to help others less prosperous than themselves.

Practically all of us could afford something to to one of these three objects. Most could afford a little help to each.

LIEUT.-COL. G. H. EVANS, C.I.E.

In the long list of Indian Coronation Honours, we are glad to see that our profession has been remembered. The distinction just conferred upon Lieut.-Col. Evans marks individual good work, but it also has a wider significance. Bestowed at this time upon the officer directing the Civil Veterinary Department, it really amounts to a Governmental recognition of the valuable part which that Department is performing in the development of India.

VOMITING IN THE HORSE.

I was called one evening to attend a seven-year-old cart mare suffering from colic. She seemed in considerable pain and was rolling from side to side. Adopting the usual routine treatment, I first ascertained the condition of the bowels, and finding the rectum full of hard, dry faeces, very little of which had been passed during the day, I removed them and gave a warm soap clyster. One grain of eserine was injected, but obtaining no result in half-an-hour I gave a 5vi. ball.

During rectal examination I found the bladder very distended and consequently passed the catheter and drew off a large quantity of urine. Several anodyne draughts were left to subdue pain, and consisted of Chlorodyne and Ess. menth. pip. The following morning she was no better and continued in this unsatisfactory state all day, passing no faeces, so I administered a pint of linseed oil. Towards evening she began vomiting through the nose and mouth, which continued all night. The diagnosis then, was ruptured stomach, and the prognosis speedy death.

She never at any time passed any faeces, and the water had to be drawn off. Death ensued at 12 o'clock on the following day.

An autopsy was made in the afternoon which revealed stomach and intestines greatly distended with food, but the stomach and oesophagus were quite intact, and I was for a moment at a loss to know the cause of the vomiting—so rare in the horse. There was, however, discovered a big rent in the caecum and third portion of large colon.

Colic in the first place had evidently been due to impaction of the third portion of colon from too much food and lack of exercise—for the animal had been idle a fortnight with maulenders. The ingesta had been rendered quite fluid by the ball and oil, and recovery would undoubtedly soon have taken place but for the rupture.

HAMILTON KIRK, CLASS D.

Dr. Thurston Holland, of Liverpool Royal Infirmary, an x-ray pioneer in this country, at a meeting in connection with the Port Sunlight Literary and Scientific Society, gave an interesting account of the history of the invention and its present field in surgery.

It was his very good fortune to be one of the first men in England to use x-rays in a practical way. His friend Robert Jones was quick to recognise the possibilities of the invention. He consulted Prof. Oliver Lodge, then connected with their University, as to the locating of a bullet supposed to be in the hand of one of his patients. They rigged up an apparatus, and after repeated trials obtained a plate showing an undefined but convincing shadow of the bullet just before the joint of his wrist.

ABSTRACTS.

SENSITISED VACCINE IN HÆMORRHAGIC SEPTICÆMIA.

Major F. S. H. Baldrey, I.C.V.D., describes (*The Journal of Tropical Veterinary Science*, Vol. VI., Part III.) a method of protective inoculation for hæmorrhagic septicæmia devised by him, the object of which is to combine a protective serum and a vaccine. The advantage of this is that the negative phase produced by the vaccine is eliminated, and immediate immunity results from the operation. There are special reasons rendering such a method peculiarly useful in India. Generally inoculation is practised during the prevalence of an outbreak, and the early immunity is of great value, as it enables the vaccine to be given without fear of lowering an animal's normal resistance. Again, there is still much native prejudice against inoculation methods in India, which deaths after inoculation of course increases; while it is almost impossible to keep animals away from possible infection during the period necessary for immunisation if a vaccine alone is used.

The theoretic principle of Baldrey's method is to combine the antigens of the vaccine with the amoceptor of the protective serum in the absence of complement. He details the technique adopted in preparing the vaccine, of which it may merely be said that it is even more difficult and complex than such laboratory procedures usually are. He also tabulates and explains his experiments, which were performed upon twenty-four bulls, and which yielded highly promising results. In the author's own words—"The percentage of deaths on animals protected by sensitised vaccine are 28.4 per cent. if tested in less than six days after vaccination. This is very good as compared with an unsensitised vaccine when the percentage of deaths is almost equal to the controls in the period under ten days. The percentage of deaths in testing after six days and up to one month is 22.2 per cent. This is but very little higher than one would get from a plain vaccine after ten days, but the disadvantage is outweighed by the advantages gained in obtaining an immediate immunity."

Baldrey's final conclusions are (1) That a sensitised vaccine for hæmorrhagic septicæmia is possible. The sensitising to be done with a heated specific serum, otherwise bacteriolysis occurs. (2) That it gives immediate immunity, thus obviating the objectionable negative phase. (3) The method of manufacture is somewhat tedious and requires infinite care in manipulation, but is a practical laboratory one. (4) The method is particularly suitable to India, for reasons already given.

These conclusions are with regard to the method as it stands at present; but Baldrey remarks that, as these experiments were the first of the kind performed in India, and the time at his disposal was limited, it is possible that the technique may yet be further improved, and better results obtained. Considering the growing importance of hæmorrhagic septicæmia in India, the research seems to be an extremely valuable one.

INFECTIOUS OSTEITIS OF HORSES AND CATTLE.

Baumgartner (*Journal de Méd. Vét. et de Zoot.*) gives an account of this condition, and summarises his conclusions as follows:

(1) An osteitis and an osteo-myelitis, both very painful, and occasioned by the invasion of the bacterium of necrosis (either alone or in symbiosis with a Gram-positive coccus) are rather frequent in horses and oxen.

(2) This infection causes a lameness, which is especially very pronounced when the animal bears weight upon the limb. It gives rise to a frequent pulse, and sometimes to fever. It is compatible with a good digestion.

(3) In some cases, abscess formation occurs.

(4) The disease has an extremely destructive action upon the osseous tissue, without the formation of secondary exostoses. An augmentation of volume of the bone, therefore, is never encountered in this condition. Sometimes the bone is sensitive to pressure.

(5) The disease is always of long duration.

(6) Treatment by iodine has a great influence upon recovery.

(7) Hitherto cases of this disease have often been set down as rheumatism—*Annales de Méd. Vét.*

GELATINE AS A HÆMOSTATIC IN VETERINARY SCIENCE.

Prof. Diego Blasi, of the Veterinary School of Montevideo, gives (*Rev. Gén. de Méd. Vét.*) some details of the use of gelatine as a hæmostatic, and of his own experience of it in animals.

The most favourable methods of introduction are by subcutaneous and intra-muscular injections. In some cases local applications (tamponnages or irrigations) may be indicated.

Needless to say, the gelatine has no influence upon the cause of the hæmorrhages. It acts differently upon hæmorrhages of every description from the lung, kidney, bladder, intestine, uterus, etc. As a general rule, it is preferable to the other hæmostatics, all of which possess a rather high degree of toxicity, and are inconstant in their action.

The author has employed gelatine in the following cases: epistaxis of traumatic origin (3 horses and 2 dogs); ulcerous gastro-enteritis and hæmorrhagic enteritis of the dog (7 cases); parenchymatous nephritis of the horse with hæmoglobinuria (2 cases); metrorrhagia in the bitch (4 cases); accidental and operative traumas (8 cases); and anasarca of the horse with petechiæ upon all the mucous membranes (4 cases). The results have always been superior to those furnished by the usual hæmostatics (hydrastis, hamamelis, ergotin.)

In paroxysmal hæmoglobinuria of the horse, gelatine has no action.

For the *large* animals the following formula may be employed:

Pure Gelatine (Merck's)	20 parts.
Pure carbolic acid	1 "
Physiological serum	1000 "

This is injected hypodermically. The solution keeps well, from its contained carbolic acid; its injection does not cause pain, and it is not necessary to place it in a water bath at the moment of employment. In the horse, from two to four litres (=3½ to 7 pints) of this fluid may be injected in 24 hours.

Another formula, which is rendered more active by the addition of ergotine, is recommended in hæmorrhages from the uterus. It is as follows:

Pure Gelatine (Merck's)	40 parts,
Ergotine	5 "
Physiological serum	1000 "

This solution must be kept fluid in a water bath during its injection. Two to three litres (3½ to 5½ pints) may be injected in a day.

For small animals, the following solution, which is commonly employed in human practice, is recommended:—

Pure Gelatine (Merck's)	16 parts.
Pure Chloride of sodium	3 "
Distilled water	400 "

This must be melted in a water bath, filtered carefully, and sterilised. From 50 to 150 grammes (= approximately 3iiss. to 3v.) are injected under the skin or into the muscles, the solution meanwhile being kept in the water bath.—(*Annales de Méd. Vét.*) W. R. C.

PERCUSSION DIAGNOSIS OF PLEURISY.

Pitres' halfpenny sign is a good means to reveal the presence of pleural effusion. An assistant percusses a penny placed flatways between the inter-

costal space with another held perpendicularly. The practitioner auscultates at a point diametrically opposite to the healthy side of the chest percussed. The ear of the auscultator perceives the striking sound, which is increased by the pectoral resonance. In the hepatised region the resonance is deadened as if by a layer of plaster. On an exudate, even if slight the echo is retarded and modified in its tone, which resembles that obtained by percussing a half empty cask. The modification of the tone is distinctly clear on a level of the surface of the liquid (halfpenny sign).—*Bulletin de Soc. Cent. Méd. Vét.* 30th September, 1911.

[Compare this with note on "Tracheal Percussion" in *The Veterinary Record* November 18, 1911, p. 309.]

Auto-serotherapy in Pleurisy.—Inoculation into the subcutaneous areolar tissue of the pleural effusion withdrawn by thoracentesis has given Marchal and Séjournant successful results in the treatment of pleural in the horse. In order to obtain good results one must operate early in the malady and inject small doses of the freshly withdrawn exudate. H. G.

The President of the Council of the French Parliament has conferred the "medal of honour of epidemics" on M. Dubois for his studies on "The Prophylaxis of Malta Fever." A translation of this author's paper on the subject appeared in the September number (1911) of *The Journal of Comparative Pathology and Therapeutics*. It is a paper full of interest and of instruction, especially to those practitioners who have to do with goats and sheep.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period	Anthrax.				Foot-and-Mouth Disease.		Glanders (including Farcy)		Counties Affected	Sheep Scab.	Swine Fever	
	Outbreaks	Animals	Con-firm'd	Re-ported	Out-breaks	Animals	Out-breaks	Animals	Animals Attacked	Out-breaks	Out-breaks	Slaugh-tered.
Gr. BRITAIN.												
Week ended Dec. 9	22	25			1	19	1	6		17	53	929
Corresponding week in	1910	31		38			3	13	Essex 4	14	57	719
	1909	29		46			8	21		31	29	139
	1908	27		30			13	24	Hertford 1	23	30	214
Total for 49 weeks, 1911	851	1056			19	486	198	478	London 1	382	2330	28662
Corresponding period in	1910	1374		1638	2	15	336	986		427	1452	13759
	1909	1228		1598			517	1723		592	1575	13730
	1908	1040		1345	3	112	754	2339		755	1965	12918

Board of Agriculture and Fisheries, Dec. 12, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Dec. 9	...	...	...	...	...	...	1	6	12	67
Corresponding Week in	1910	...	1	...	...	...	...	...	7	1	46
	1909	...	...	...	...	...	...	2	8	...	...
	1908	...	...	...	...	...	...	1	10	1	12
Total for 49 weeks, 1911	...	9	16	...	...	2	3	55	315	160	2414
Corresponding period in	1910	...	7	13	...	1	2	63	426	89	2119
	1909	...	8	8	...	...	...	73	381	87	1562
	1908	...	7	10	...	...	...	39	341	156	3575

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 11, 1911
 Note.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

A meeting was held in the Royal (Dick) Veterinary College on Wednesday, Oct. 25th. The President, Mr. James Peddie, occupied the chair.

The minutes of the last meeting were read and confirmed.

The SECRETARY intimated letters of apology from Messrs. Inglis, J. W. MacIntosh, Robson, Hamilton, and Prof. J. R. McCall.

CORRESPONDENCE.

The SECRETARY read letters from Prof. Woodruff and Mr. Wm. Shipley asking for subscriptions to the Kirk Appeal Fund and the Victoria Veterinary Benevolent Fund respectively.

The CHAIRMAN said that they had better take the letters from Prof. Woodruff and Mr. Shipley together, because they were both asking for donations for their funds. The Council met before the meeting and decided to put before the meeting a recommendation that they should give one guinea towards Mr. Kirk's appeal fund and also one guinea to the Victoria Benevolent Fund. It was open for their consideration now as to what they should do in the matter.

It was agreed to subscribe one guinea to each fund in accordance with the recommendations of the Council.

The CHAIRMAN said that the next matter was a letter from Prof. Gofton with regard to the amalgamation of Societies. He supposed as they had already given a definite opinion on the case, all that was necessary was that someone should formally move that they agreed to the conditions. He had much pleasure in moving that the Society become affiliated to the National Veterinary Association in accordance with the amended rules.

Mr. AITKEN seconded, and the motion was carried unanimously.

NEW MEMBERS.

Messrs. J. G. MACGREGOR, Greenock, and M. MACKAY, Kelso, who were nominated at the last meeting, were elected members of the Society, on motion of Chairman, seconded by the Secretary.

Prof. AINSWORTH WILSON was nominated for membership by Mr. Henderson, and seconded by Mr. R. Reid.

Messrs. A. MACKENZIE, Kirkcaldy, DAVIDSON, Edinburgh, and J. BASIL BUXTON, Edinburgh, were nominated by the Secretary, seconded by the President.

Mr. MATTHEW, Selkirk, was proposed by Mr. R. Reid, seconded by Mr. Hannay.

ELECTION OF OFFICERS.

Prof. GORTON said that he wrote the President some time ago asking to be allowed to renominate him to fill the President's chair for another. It was with some very considerable hesitation that he had consented to re-nomination, but he thought Mr. Peddie had been persuaded that it was almost his duty to continue in office, and that his place would be somewhat difficult to fill should he retire at the present time. He had therefore consented to stand, and he now had much pleasure in nominating Mr. Peddie as President for next year.

Mr. REID seconded, and the motion was carried unanimously.

The CHAIRMAN said he would like in a word to thank them for the honour they had done him in electing him to preside over the Society for another year. The feeling of hesitation which he had was not due to a lack of interest in the Society, but to the increasing difficulty he found in attending the meetings. One who held a presidency of the Society did not like to absent himself from the meetings if it were at all possible for him to attend, and it occurred to him that someone could have been found to attend the meetings to whom it would be

easier than it was for him. It would not have meant, if he had relinquished the chairmanship, that he would have lost interest in the Society, but he would have felt he was not bound to attend the meetings so religiously. Seeing they had agreed to his nomination he would do his best to pilot the Society for another year. He would ask them to co-operate with him as heartily as they had done in the past.

As the Secretary had said, they could do with a greater number of members. He pleaded with everyone to try to get their friends within the radius of Edinburgh to join them. There is no doubt that unity is strength, and the greater number of members they had the better it would be for the Society. He hoped they would have a prosperous year and that the Society would be found in a prosperous condition at its close.

Vice-Presidents.—Messrs. R. Reid, J. Riddoch, and Prof. Dewar were elected on the motion of Mr. J. Cameron.

Auditors.—Messrs. J. Henderson and J. Riddoch were re-elected.

Hon. Sec. and Treasurer.—Prof. Gofton was re-elected on the proposition of the President, seconded by Mr. Henderson.

Council.—Messrs. A. A. Baird, Cameron, sen., Aitken, junr., and Principal Bradley were re-elected, on the motion of the Secretary.

THE INTERNATIONAL CONGRESS.

The SECRETARY said that he wished to mention a matter which, strictly speaking, was not a part of the business of the meeting, but since all the societies had been appealed to in connection with it he thought it would be wise to bring it forward now. It was the International Congress of Veterinary Surgeons, to be held in this country in 1913 or 1914. It had been intimated that about three thousand pounds would be required, of which one half would have to be raised by the members of the profession in this country. This Society was not in a position to give a large sum, but he thought they might give a small sum and repeat it next year if funds permitted. He moved that the Society subscribe a sum of two guineas.—Agreed.

THE LATE MR. CHARLES CUNNINGHAM.

Mr. CAMERON rose to propose that a letter of condolence be sent to the relatives of the late Mr. Cunningham, of Slateford. For many years Mr. Cunningham had been a member of the Society, and he was a close neighbour and a very prominent member of the profession. The reminder he had received was the name Cunningham cut out on the desk in front of him. It was prominent there, and reminded him of the many pleasant memories of Mr. Cunningham, and his able assistance to the profession, particularly from a Scottish point of view.

The CHAIRMAN, in seconding Mr. Cameron's motion, said that the late Mr. Cunningham was an able and cultured man, very genial and kindly. He had nothing but pleasant recollections of him, and he thought it would be gracious on the part of the Society if they were to move a vote of condolence with the family and send the letter. He asked the members to pass the resolution upstanding. The motion was carried in silence.

ERYSIPELAS.

By Mr. JOHN CAMERON, M.R.C.V.S., Berwick.

In choosing a subject for discussion at this meeting, two alternatives present themselves—is the subject to be elaborated in full detail; or should the principle features of the subject only be stated, and each one asked to contribute in building up a more complete structure. Of these two I think the latter is on many grounds to be preferred. I am quite aware that many

prefer to be crammed with spoon feeding; they forget the old truth that there is "a giving which does not impoverish and a withholding which does not enrich."

Again, should the subject be a common one, such as equine surgery of the foot, or one which has received comparatively little attention in veterinary literature, such as erysipelas? I have decided on the latter—Erysipelas.

In Scotland, in the vernacular for generations past, it has been "The Rose." In England it has been known as "St. Anthony's Fire."

It may be defined as a specific, contagious inflammation of the skin, due to streptococcal infection, accompanied by constitutional disturbance. In one respect its history is like that of swine fever and tuberculosis, in that it was known to be contagious long before the infecting germ was isolated and determined. The special micro-organism—a streptococcus—was first successfully isolated and proved by Fehleisen. In his opinion this streptococcus had characteristics which distinguished it from the streptococcus pyogenes. Other bacteriologists who have investigated the subject do not support that conclusion. They hold that the germs are identical, and that any clinical differences can be accounted for by variations in the virulence of the organism, variation in the site of inoculation, also the constitution and resisting powers of the subject.

This same streptococcus may also produce erysipelas or puerperal fever, according to the condition of the subjects.

There is no need for a large wound, as a microscopic abrasion will be sufficient for inoculation. For many years now I have observed that when one gets one case of erysipelas one frequently gets at about the same time other two or three cases. Sometimes on such occasions one will also hear of persons being affected with erysipelas. It seemed as if atmospheric influence had something to do with its development. On many occasions I have observed cases occurring in a leg, the animal rather thin, and working full time, and the weather was cold, wet, windy, stormy, severe.

In the human subject the infection may be carried by the doctor, the nurse, by instruments, bedding, etc. The infection of some rooms and places has become chronic. It therefore becomes our duty to be careful and see that we do not act as agents in disseminating the disease. An important feature of the disease is its disposition to periodic attacks on the same subject. These should be watched for and anticipated by preventive treatment. In the human subject many persons who have only had a mild attack of this disease, and who are not aware that it is a blood poison disease of a relapsing and increasing disposition, think of and treat it lightly, often with prolonged and fatal consequences. I hold that it is equally so in animal practice. I go further, and say that I believe a wrong diagnosis is many times made between cases of "weed" and erysipelas.

In case of "weed" or supposed "weed," we are frequently not consulted. It is a thick leg, and it is presumed that it is quite correct to give all swelled legs the same treatment. Take a typical case of "weed" with swelling beginning on the inside top of the thigh, extending downwards, with full, strong, bounding pulse. One gives at once a good purging dose, fever draught, and may—if in the early stage—bleed freely. One may, thereby, expect good prompt results. But, if the case has begun to swell at the fetlock or hock, the swelling extending upwards rapidly, the pulse quick but small, and the temperature high—higher in proportion to the other symptoms and the length of time affected—in such a case of swelled leg the previous line of treatment for "weed" will not give the same improvement. There are still owners of horses and experienced attendants who have often noted the excellent results arising from bleeding in a case of "weed," and they often expect and

ask you to bleed the case in hand. If it is an early case of real "weed" I homologate their desire for blood-letting. But if the case is of the nature of erysipelas I consider it my duty to point out that every swelled leg is not a case of "weed." That this case is different, and bleeding would be decidedly injurious.

"Thick legs" also occur under very different conditions. I do not need to enumerate the typical circumstances which give rise to "Monday morning disease." On many occasions we have a sudden swelled leg in a horse whose general condition is "below par," and which has been performing a full amount of regular work; time, middle of the week; weather, severe. This is not a case of "weed." By pointing out to the owner these differences one is able to convince him that we are exercising careful, sound judgment in not bleeding the case, and in other differences of treatment. We would also be careful to let him know that relapses are to be expected, and that the rate of progress and prognosis cannot be given with the same confidence as in some other conditions. The treatment of this disease, historical and otherwise, is not creditable to veterinarians. It is a disease with a long, broad history, and one which has caused much illness and death in the human subject. The late Finlay Dunn says:—"Rarely occurring in horses." Gamgee: "Seen more often amongst sheep and dogs than any other animals." A recent author, the late Professor Axe, under the index title Erysipelas, says: "The worst case he ever saw arose from using too freely the singeing lamp." That is all. My experience extending over many years has been that erysipelas is a common disease in the horse.

The incubation period is variable. In the case of pure inoculations it varies from 15 to 60 hours; but three to eight days is the usual period. We frequently have the infection and development of erysipelas in connection with wounds, and especially in the early period. After a few days have passed, and nature has supplied the parts with leucocytes and other micro-organisms, it would appear that the infection of erysipelas is not so easily accomplished. It is, therefore, in the early stages of all wounds and bruises that antiseptic treatment, general care and cleanliness, both of the animal and its surroundings are specially called for and are specially beneficial.

Many owners of animals have a dread of tetanus, but they do not dread erysipelas or other blood poisons as they should do. Very often it is only after the large, rapid, thick edged swelling has developed that the veterinary surgeon is sent for. It will then be our duty to impress on the owner and his assistants the great need for a much higher standard of cleanliness in the surroundings and housing of animals suffering with broken and bruised surfaces, including a more liberal allowance of disinfection to the stall and stable generally, if the case is to progress without interference from blood poisons. They must also be made to understand that this kind of swelling is due to a blood poison, and that internal constitutional treatment is quite as necessary as external treatment.

Wounds and bruises having existed a few days, we may have a sudden, extensive, thick-edged swelling of the surrounding parts, with a high temperature. The symptoms, duration, and final results of an attack of erysipelas vary very much. The onset and development of the disease is always sudden, and if the treatment is prompt and appropriate the inflammation will abate, and the exudate be absorbed comparatively early. But unless everything is favourable, recovery and reduction of the parts are often prolonged.

In the horse we also have the characteristic relapses of this disease frequently and fully demonstrated. Although the attendant's report and the appearances are favourable, it is wise to count the pulse, and especially to take the temperature. An increase of tempera-

ture is sure to have its corresponding increase or extension of swelling next day. Frequently the relapses do not last more than one or two days, and although the swelling has increased the temperature is again much reduced. Its erratic disposition is also prominently displayed by new developments in other and distant parts of the body.

On some occasions the exudation in the areolar tissue beneath the skin is extensive, and very rapid suppuration may take place. These parts, if not lanced, will soon burst, leaving a large ragged opening. The discharge contains very little real pus but more flakey, turbid serum, and broken down areolar tissue. Although this process looks serious it has the advantage of quickly removing the effusion, and the parts—such as the leg—are sooner restored to a moderate size and usefulness. In more serious cases the inflammation and suppuration become deeper seated, and there may be difficulty in giving it free exit, especially if joints, tendons, or ligaments are involved. In such cases the pain and lameness may be very severe and prolonged with prominent deformity of structure. The relapses of the invasions of other parts may be so severe, and cause so much destruction of essential parts as to cause the death of the animal.

I shall never forget a case which began on a shoulder blade, arising from a punctured wound. It ended in gangrene of the tendons and ligaments of a hind foot; the flexor tendons sloughing through entirely, and the toe looking straight up. Destruction of the horse—a valuable one—thus became necessary.

TREATMENT.

Serum treatment.—Now-a-days, I suppose, it would be a great omission to pass over the serum treatment in constitutional diseases. On this subject I have no light or leading to give you. At previous meetings some of our younger members have given us their experience of serum treatment in other diseases, so I shall depend on them on this occasion. So far as I understand the subject, the serum treatment in erysipelas in the human subject has not been attended with any success worth mentioning.

Internal.—In most cases a purging dose of aloes, or aloes and calomel, or aloes with a little linseed oil, and tr. ferri perch. or turpentine should be given. This to be followed up with repeated doses of turpentine, Tr. ferri and Ol. lini, *aa* ʒi in a bottle of gruel. Also repeated doses of Colchicum and Saline diuretics. Also Hyposulphite of soda frequently repeated. Sometimes a variation may be made with a few doses of Iodine and Iodide of potassium. In my experience I have had good results with Tr. ferri. and Ol. tereb. Even if the case is making fair progress one will be wise to continue giving periodic doses of these. If not, one need not be surprised to find a sudden and severe relapse which will set the case back for at least a few days. These relapses may be so frequent and so severe that we will not attain success, unless we have in hand a large supply of patience and perseverance.

External.—If cleanliness and disinfection have not been well attended to before the appearance of the disease, I would prefer a thorough wash with soap, warm water, and a disinfectant, such as lysol, as a first application. Then dry the parts and dress all over with a soothing antiseptic dressing, such as glycerine, water, lysol, and belladonna or opium. Sometimes an oily liniment containing a preparation of lead is preferable. Ointments are on some occasions to be preferred. The special agent may be boracic acid or ichthyol, the latter being recommended in the human subject. In addition the parts may be well dusted with disinfecting powder, or starch powder with an active agent added. Even a good dusting with flour alone is considered beneficial.

With the object of stopping the progress of the derma-

titis, many expedients have been tried in the human subject, but with little success. Painting the parts in advance with glycerol of iodine may be tried. When one has large deep seated abscesses, they will require to be often and thoroughly injected and washed out with an antiseptic, stimulating wash. A frequent change in the active agent in these washes and lotions is, I think, desirable.

About 18 months ago I had a most severe, prolonged, relapsing case where there were at least three such cavities, and they had inter-communication. On different occasions I injected them from the under opening—side of the knee—pumping in the fluid with a syringe used for injecting liquids into cows' udders. I injected a full litre bottle-full, the whole being retained, and the animal walked on one occasion about thirty yards before any of it came out. That case consumed a vast amount of patience and perseverance, but we were rewarded at last with real success—worth the expenditure.

To finish up some of these successful cases one will require some good iodine blisters and a run at grass. Again, I say, remind the owner that these relapses and prolongations are the nature of the disease, and that in many cases they cannot be cut short or prevented, either in man or the lower animals. Their great annoyance and loss has to be endured. Sometimes when there is much effusion in dependent parts it may be desirable to puncture or lance the skin in a few places and allow the effusion to escape, and prevent suppuration.

At first, soft and restricted diet is to be prescribed along with the physic. After that good feeding is required.

Some diseases have been thoroughly exploited; there is little or nothing more to be found out regarding them. Specific drugs and lines of treatment have been adopted for them. I believe it is not so regarding erysipelas. The medical profession has had long and frequent experience, and tried many things and many ways, but there is yet abundant room for investigation and progress.

DISCUSSION.

Mr. HANNAY said he did not know much about erysipelas in animals unless it was a condition the same as he had seen a few times, and which he had successfully treated with nuclein. He had also used antistreptococcal serum with satisfactory results.

Mr. WILSON (Lanark) said he wished to ask Mr. Cameron how he would distinguish what he termed erysipelas from the lesions caused by the malignant oedema bacillus. He believed he had seen one or two cases which might be called erysipelas.

During this summer he had been called to a horse with a tremendously swollen hind leg; the animal had a very weak pulse and a temperature of 107 F. when he saw it. The owner thought the case an ordinary weed, but the extremely weak state of the horse was distinctly characteristic. In addition there was a lot of milium vesicles over the whole limb and a nasty sticky effusion exuding down the whole of the leg. The leg was extremely painful, and the horse looked like dying. He did not know whether the animal was cured by its inherent spirit or by the treatment he prescribed, namely, salicylate of soda internally, along with whisky or beer, sweet milk and a good oatmeal gruel. He bathed the limb with cold water and an antiseptic. There were no signs of injury to the limb and no sloughing took place.

With regard to cold water treatment, some years ago he had a case of what might have been erysipelas in a bull, which had an infected navel. The skin round the navel was bluish or purple in colour. The owner had bathed the part with hot water, but it had extended and when he saw it the affected part was as large as his hand and dark purple. He stopped the hot water and ordered cold water to be applied for several hours, and

had the part rubbed with turpentine at intervals. A large slough separated. In his opinion the cold water and turpentine had stayed the extension. When there was quickly extending inflammation due to invasion by micro organisms he had frequently tried continuous bathing with cold water and rubbing pure turpentine, and he thought it had had the effect of arresting the spread of the infection better than anything else. In most cases indeed they might as well kill the animal as bathe it with hot water, because the heat of the water seemed to encourage the growth of the micro-organisms. He wished to thank Mr. Cameron for bringing such an interesting paper before them.

Mr. NIXON said that he did not know if he had ever seen erysipelas but he had met cases to which the term might perhaps have been applied. There had usually been some breach of surface about an angular reflection, which ran on to supuration.

Mr. GREIG hoped it would not be considered presumptuous on the part of a student to speak. He was impressed with the fact that erysipelas seemed to be more rare than he had suspected. He had been interested to hear Mr. Storie express his doubt about having ever seen a case of erysipelas in our animals. Curiously enough he had the pleasure of acting as locum for Mr. Storie last year, and during that time he considered he had a case of erysipelas. He would try to describe it.

The patient was a heifer and the owner stated that for two or three days he had noticed her out of sorts, dull and depressed, and off her food. That was all the information he got. He found the heifer down with prostration, and an extensive swelling over the right quarter. The skin was hard and tense with a cold clammy feeling, and the tail was quite dead. The limits of the swelling were quite well defined. At the time he did not know what it was, but since entering his final year he had put it down as erysipelas. The animal was obviously in pain, and he simply gave it a sedative and warned the owner the case was hopeless. It died that night.

The CHAIRMAN said he wished first to thank Mr. Cameron heartily for bringing forward the excellent paper on erysipelas which he was sure had at least stimulated their faculties of thinking. From the discussion it appeared that the disease was not regarded among veterinary surgeons as a very common condition. He had not met with many cases of what he would call erysipelas, and any cases he had named as such had been of a phlegmonous character. His cases had been for the most part in horses and strange to say had nearly always been in the hind legs, beginning frequently about the coronet, in some cases higher up the leg. Another peculiar feature was that his cases had been mostly among horses belonging to coal merchants or contractors, and consequently horses going about very dirty places and with the skin and hair about the legs naturally very much soiled. These cases began from injury, possibly, but difficult to ascertain, because by the time he got them there was considerable swelling. One could notice, however, if one got them early enough that there were some bullae on the skin. It ran its course very rapidly and there was soon sloughing of a portion of skin. There was constitutional disturbance and great pain to the animal, which was very lame and evidently much distressed.

Mr. Cameron had remarked that some of the authorities stated that erysipelas was very common among dogs. He had considerable experience in dog practice, but he could not recollect anything of that nature. He believed erysipelas occurred in animals, and perhaps oftener than they thought. One thing that might keep them from diagnosing the condition was that their patients were covered with a large amount of hair, and they had not the same opportunities as medical men with human beings. In the cases he had described as erysipelas, the

treatment he adopted was that he generally gave the animal a ball containing aloes, calomel, and nux vomica. He was in the habit of clipping the hair round the part and smearing all round the edges of the inflammatory site with glycerine and belladonna. He also used an antiseptic poultice or dressing to hasten the separation of the slough. Lately he had been using ichthyol in the form of an ointment. He also administered quinine with iron and stimulants, and if necessary gave a sedative, as there was great pain when sloughing was taking place. With horses he found it advisable to place them in slings, but if big loose boxes were available they would generally lie down.

He was sorry to note one remark in Mr. Cameron's paper that serum treatment had been tried in human practice, but had not given good results. He had not been able to read up the subject from the human standpoint, and was not able to say much about it. It was supposed that erysipelas was due to the streptococcus pyogenes, and it was not known why these organisms should be in one case quite harmless and in another make the skin inflamed. He had hoped that good results might have been obtained from antistreptococcal serum. The paper was one which would stimulate their observations.

Mr. STORIE said he wished to add a single word. He hoped that Mr. Cameron did not think he had been pouring cold water on the paper when he remarked that he could not say positively that he had ever seen a case in animals. He was doubtful if they ever met with such cases in animals. Reference had been made to cases where the animals were dirty, but in human cases erysipelas was found amongst the better classes, and where there was an absence of dirt.

Mr. HENDERSON thanked Mr. Cameron for his paper. The subject had been somewhat obscure and he could not appreciate the difference between erysipelas and cellulitis. If erysipelas were contagious and occurred in veterinary practice he thought they would meet with groups of it. With regard to the disease spreading by means of abrasions, he had personal experience of erysipelas and could say that abrasions were not necessary to contract the disease. He had seen cellulitis which seemed to resemble erysipelas very much.

Prof. WILSON said he knew little about the disease from a practical point of view, and could not honestly say he had come across a case of erysipelas amongst their patients. Some years ago he had several cases of mammitis accompanied by a good deal of edema and much reddening of the skin. The temperature was not unusually high, and there was no excessive heat about the part; altogether he came to the conclusion that the condition was not erysipelas. He had met with several cases similar to those which had been described, but he did not think he was justified in calling them erysipelas. When one read up the disease in the human subject and compared it with the disease in animals they would perceive there were differences. With regard to the point in the paper dealing with the application of iodine, he noted that the painting of a ring of strong iodine round the margin of the region was considered to be excellent treatment in the human subject. It prevented spreading.

Mr. CAMERON, in reply, said he was not sure he had many comments to make. Mr. Storie stated he had not met with any cases of erysipelas; that was not because he had little or no experience. He knew quite well, however, that there was such a thing as erysipelas. Cases were not always diagnosed with certainty, and frequently they had a crop of similar cases. He remembered at one time having a large number of cases of scirrhus os uteri, but until the beginning of this year he had not had a single case since that time. Regarding malignant edema, he had not had much experience, but one occasion he remembered; two or three horses died

from it, and a number of sheep on the same place were also supposed to have succumbed to it. He thought the word malignant was well employed there, but though erysipelas developed very rapidly it was nothing like that disease.

He thought external treatment with turpentine deserved greater attention than it received. He rarely applied it externally himself, but he believed strongly in giving turpentine along with linseed oil. In preparing his paper he had not had the advantage of references to medical literature such as might be obtained in Edinburgh. He had, however, consulted one recent medical text-book and was surprised to find from it how little progress the medical profession had made in their treatment.

He had had cases which he was quite sure were erysipelas, but he had not had as many cases in cattle as in horses. Besides his experience of erysipelas in horses he had had plenty of trouble with the disease in human kind, and much of it in his own family. He thanked them very much for their remarks on his paper.

On the motion of the Secretary, Mr. Cameron was heartily thanked for his paper.

Mr. STORIE moved a vote of thanks to the Chairman, and the meeting adjourned.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION

A meeting was held in the Imperial Hotel, Darlington, on Friday, December 1st. The President, Mr. W. Awde, Stockton-on-Tees, presiding. There were also present Messrs. P. Snaith, A. C. Forbes, Bishop Auckland; J. M. Walker, West Hartlepool; H. Peele, Durham; G. R. Dudgeon, Sunderland; W. N. Dobbing, C. G. Hill, and J. H. Taylor, Darlington.

The minutes of the previous meeting were taken as read and confirmed on the proposition of Mr. Hill, seconded by Mr. Peele.

CLINICAL CASES.

"TWIST."

Mr. HILL. Since the last meeting of the Association he had had four cases of twist in the bowels in horses, and the symptoms presented in three of them gave him little idea of what really was wrong with his patients. One brought to his infirmary was practically dying when it came in, and died within an hour. It had no pulse, and medicine had no effect. The other three cases showed little or no pain to speak of, and beyond being dull and drowsy there was little to see, and nothing abnormal could be felt per rectum, and there was little alteration in the pulse. One lived twenty-four hours, another about three, and the third about six hours. Two of the animals were tympanitic, and two tucked up. On post-mortem there was a twist of the colon in each case.

NUCLEIN.

Mr. PEELE asked if any of the members had used Nuclein in pneumonia. He had used it with excellent results. In his experience you were apt to get an abscess at the seat of injection, in spite of all aseptic precautions. He usually gave it alone without the administration of other medicines.

Mr. HILL stated that he had used Nuclein in navel-ill in foals with excellent results. In one case he had used it upon the foal, had abscesses and an open urachus, and had to be lifted up. It did very well, making a good recovery.

He had also used it in distemper in dogs, and in follicular mange in a dog, which was a very bad case, the

dog being very weak, and at first looked as if it ought to be destroyed. After treatment, however, the dog commenced to eat and improve, and eventually did well. He had not had the same experience as Mr. Peele as regards the abscess formation at the seat of injection.

Mr. FORBES had used Nuclein in pneumonia, and in his experience it was invaluable in reducing temperature, one dose usually bringing the temperature down, which lasted for two days.

Mr. WALKER had used Nuclein in the saline solution, but could not agree that it brought down the temperature as described by Mr. Forbes. He once treated a heifer, which had a temperature of 102° for a fortnight, with Nuclein, but the temperature remained stationary all the time, although after commencing to use it the heifer started to feed much better.

He had recently been treating a sow with a litter of six or seven pigs all affected with mange, but the peculiar part of the thing was that some pigs who were being fed for the butcher did not get the disease, although they came in contact with the others. There was no doubt about it being mange, for he found the parasite causing the disease in large numbers.

FARMERS AND SURGICAL INSTRUMENTS.

Mr. SNAITH read a letter he had had from one of his clients, as follows:—

Dear Mr. Snaith,—I have for some time thought of having a milk fever syringe, and on looking through Arnold's catalogue I fixed on having what they call the "Adaptable." After I got it I experimented on it with two basins and could not satisfy myself in the working of it, and could not be sure whether it was intended to inject air or liquid, so I wrote them for some enlightenment, and in their letter they said it was intended for to inject liquid, but if I wished to inject air they would exchange it for me. What would you recommend me to do? Up to now I have never known us have a cow with milk fever, but I thought one might be useful at some time. I hope you don't think I am asking too much of you. Yours truly, —

Many of the members expressed the view that they thought it was most undesirable to sell this class of instrument to farmers, and that the sale of such like instruments should be restricted to veterinary surgeons.

Mr. SNAITH said that in some instances Arnold's charged less for their goods to farmers at shows when compared with their list prices, and certainly he thought that if anybody was to be let lightly off as regards price it might be the veterinary surgeon.

The view was expressed that the matter might be mentioned to Arnold's traveller when he called for orders.

Mr. DUDGEON proposed, and Mr. Walker seconded, that beyond mentioning the matter to the traveller no action be taken, as without a doubt Arnold's—and other firms—would continue having their stands at shows, and sell their goods to anybody who paid for them.

UNEXPLAINED SYMPTOMS—DEATH.

Mr. SNAITH. On reaching the farm he found two heifers laid down, frothing at the mouth, jaws rigid and their limbs stuck straight out, like a wooden animal, pulse and temperature were normal, the head was drawn right back towards the middle of the back. There were no nervous symptoms present, the animals being perfectly quiet, and could eat and chew their cud. One heifer had been given a draught for inflammation down the nose just before he got to the farm, and soon afterwards the jaws relaxed, he got it on its legs, and it walked about half a mile to the farm. The other heifer got a dose of medicine down its nostrils, the jaws relaxed in this case. He treated the cases with sedatives, and both got a dose of opening medicine. One heifer

lived for three weeks, and the other five and a half weeks. He made a post-mortem, but there was nothing to see to account for the symptoms. There was some grit in the second stomach and splinters of solder. The disease was not tetanus, although certainly like it in some respects, nor lead poisoning, nor due to lightning. It looked as if the animals had eaten some poison, which had become absorbed into the system.

He was at a loss to account for the mischief, so wrote to Sir John McFadyean, who replied that he could not account for the illness.

Mr. DUDGEON said that the symptoms certainly pointed to some affection of the cerebro-spinal system, and probably the absorption of a poison was the cause.

Mr. HILL stated that he had recently had a case of acorn poisoning in a bullock, and on making a post-mortem he found that the 4th stomach and bowels were deeply congested, these symptoms being rather different to the symptoms of acorn poisoning as described in *The Veterinary Record* lately.

R.S.I. CONGRESS—DELEGATE.

A communication was read from the Royal Sanitary Institute inviting the Association to send delegates to the Congress to be held at York from July 29th to August 3rd, 1912.

Mr. DUDGEON proposed that the Association be represented at the Congress, and Mr. Hill seconded.

Mr. DUDGEON proposed, and Mr. Walker seconded, that Mr. Awde represent the Association at the Congress, and this was carried unanimously.

CONTROL OF TUBERCULOSIS.

A communication was read from the Association of Veterinary Officers of Health which contained a scheme formulated by Mr. Lindsay, solicitor and Town-Clerk Depute, Glasgow, which, in his opinion, was necessary in order to get uniformity and to place the milk supply under satisfactory supervision and control.

The communication also contained a resolution which was unanimously adopted at the annual meeting of the Association held in Edinburgh on October 13th last, which resolution was as follows:—

"The delegates and members assembled at the annual meeting of the Association of Veterinary Officers of Health held at Edinburgh on 13th October, 1911, recognising the danger to the public owing to the prevalence of tuberculosis amongst animals, and particularly by the consumption of the meat and milk of such animals, respectfully and urgently call upon the Government to take immediate steps to control the disease by—

(1) Scheduling tuberculosis as a contagious disease under the Diseases of Animals Act, with partial compensation for all tuberculous animals and carcasses notified and condemned, payable out of State funds for a limited period.

(2) Offering financial assistance to all owners and breeders of stock who are willing to take the necessary action to breed tubercle-free herds.

(3) Compelling owners of property to provide sanitary buildings in which to house healthy animals, by means of State loans if necessary—the occupants of such buildings to keep them in a cleanly condition.

(4) Taking such further action as may be considered necessary in the future to completely eradicate tuberculosis from the midst of farm animals: and

(5) Placing under adequate control sea-borne supplies of meat and milk."

Mr. DUDGEON thought that there was much food for thought in the communication which had been read, that there was enough to occupy one meeting in discussing it.

The general opinion was expressed that the members were entirely in sympathy with the scheme formulated by Mr. Lindsay, and the resolution was adopted by the

meeting: it was proposed by Mr. Snaith, seconded by Mr. Peele, and carried unanimously, that the Secretary write to the Secretary of the Association of Veterinary Officers of Health and inform him that the Association were in sympathy with his letter.

Mr. AWDE stated that an omission occurred at the last meeting, as he understood that owing to an oversight Mr. Dudgeon had not received the thanks of the Association for his services during his year as President. He had now very great pleasure in proposing that the best thanks of the Association be given to Mr. Dudgeon for his conduct in the chair. This was seconded by Mr. Walker, and carried unanimously.

Mr. DUDGEON suitably returned thanks.

PRESIDENTIAL ADDRESS.

Mr. W. AWDE, F.R.C.V.S.

Gentlemen,—I very much appreciate the honour you have conferred upon me in electing me the President of this Association for the ensuing year. It is not the first time I have occupied that position, but that will not lessen my responsibility; it will only I hope stimulate me to try and make the position of the Association more secure than it now is, so that when my year of office is ended it will be better numerically and financially than at present. In order to do this I shall require the co-operation of all our members by their attendance at meetings, providing papers for discussion, and by inducing other members of the profession to join the Association. Being one of its first members I am not satisfied with its progress so far as numbers are concerned. We have had quite a large membership since it began, but unfortunately from numerous causes the number of resignations have generally kept pace with the election of members, and as a result the numbers have remained stationary. It has often been said, and with truth that there is a lack of cohesion amongst members of the veterinary profession. When we look about us, what do we find? There are more than half of the profession who are not members of any veterinary medical association, and some of those who are, hardly ever attend a meeting, and seem to have lost interest, except in their own concerns. They evidently have forgotten the motto of their profession, *Vix unita fortior*, and do not live up to its teaching. It is therefore no wonder that the veterinary surgeon who does not mix with his brother practitioners regards them with distrust and suspicion, and often forgets that he has any duty to perform either to his neighbour or to his profession. Attendance at meetings not only tends to the diffusion of knowledge, it often affords opportunities for the discussion of difficult or obscure cases, but it also assists in rubbing off one's corners, and in seeing our neighbours and coming into closer contact with them and getting to know them better and to find that they are not such bad fellows after all, and quite different to what we expected. We have had many lessons during the present year as to what combination can do by what has occurred in the labour world, and if only the profession would stick more closely together they would be able to improve their position, and we should not hear so much about cutting prices.

As a result of the action of the teaching staff of the Royal Dick Veterinary College and the National Veterinary Association, the way has been opened for the amalgamation of the Veterinary Societies with the National, and a scheme evolved by which the members of the Societies can be affiliated with the larger one on payment of so much per head. This matter has been brought before you for consideration, and so far as I can see there are great possibilities in the scheme, and if carried into effect it will be possible at any time to ascertain the feelings of the profession, and to give voice to them. I only hope that it will induce more members

of the profession to join the local Veterinary Medical Associations.

The introduction of motor cars and motor vehicles of all kinds have displaced horses to a very large extent in towns and has made a considerable difference to the revenue of town practitioners. It is to be hoped that the findings of the Royal Commission on Tuberculosis will yet open the way to more examinations of cows' udders by practitioners, particularly in the country districts, as the insanitary conditions under which they are kept in the winter time are well known. It is a pity that Mr. Burns' Tuberculosis Bill was abandoned.

Whole time appointments to County Councils and municipal bodies are certainly on the increase, although one could wish they were more numerous. Municipal bodies have now quite an army of officials of various kinds to look after the health of individuals. Health visitors to go into their houses and instruct the mothers as to feeding their children with milk, etc., but it seems to me that the source from which the milk is obtained should be first put right, or all the other instruction will be thrown away, and disease disseminated.

Lately we have seen cases recorded of medical officers of health paying visits to inspect milk cows in byres for themselves. We as a profession ought to protest against such a course unless he be accompanied by a veterinary surgeon to advise as to the condition of the animals.

I am sorry to have to record another outbreak of foot-and-mouth disease within the last few days at Bridgewater, Somerset. No doubt in the hands of the Veterinary Advisers of the Board of Agriculture the disease will soon be stamped out. These outbreaks have been rather too frequent of late, and so far as I have been able to find out, the cause of the outbreaks has not been satisfactorily solved.

Anthrax seems to be very much on the increase, and several outbreaks have recently occurred amongst Army horses.

I much regret the scrappy nature of my address but hope for a successful year for the Association.

Mr. DUDGEON proposed a vote of thanks to the President for his address, and this was seconded by Mr. Peele and carried unanimously.

Mr. AWDE returned thanks, and hoped that the members would try and attend the meetings, and bring forward subjects for discussion.

THE COAL MINES BILL.

Mr. PEELE said that he had a statement with reference to the Coal Mines Bill which he would like to bring before the Association, as he considered that it was most important. If he had had time he would have called a meeting of the members, but it was only about a week ago that he was acquainted with the matter, and as the report stage of the Bill might take place any day, it was necessary to act promptly in the matter. About a week ago, said Mr. Peele, a colliery manager called his attention to Clause 109 (3) in the Bill.

[These Clauses of the Amended Bill, with the reception of the deputation, appeared in last week's issue, p. 352; and the passing of the Bill with an Amendment to Schedule III. (1), at p. 366.]

After his conversation with the colliery manager he saw Mr. Elphick, of Newcastle, and wrote to the Secretary of the Royal College of Veterinary Surgeons, who replied that the portions of the Bill which Mr. Peele called his attention to were not in the original Bill which he had seen, but were inserted in the amended Bill which had come into his office during his absence on holiday last August, and thus had escaped his notice. Mr. Peele then got into communication with Mr. Thatcher, the solicitor of the College, and matters were pushed forward.

Mr. Peele said the person to apply the test ought be none other than a veterinary surgeon, for a horsekeeper might be considered by some people to be a competent person, but he was certainly not the proper person. A veterinary surgeon might be a competent person enough to vaccinate a child, but he was not a proper person, that person of course being a medical practitioner.

Much surprise was expressed by the members that it had been left to individual members of the profession to do the initiative in the matter, and it was felt that matters ought not to have been allowed to have gone as far as they had done without the Royal College of Veterinary Surgeons taking prompt action. Somebody was certainly to blame, and it looked as if the Secretary of the College ought to have called the attention of the Parliamentary Committee to the parts of the Bill relating to animals.

It was felt that the thanks not only of the Association, but also of the profession as a whole, were due to Mr. Peele for the action he had taken in the matter.

After some further discussion the following resolution moved by Mr. Peele, and seconded by Mr. Snaith, was unanimously carried:

"That this meeting of veterinary surgeons having considered the clauses relating to the animals of the mine in the Coal Mines Bill are of the opinion:

1. That the special Inspectors to be appointed by the Secretary of State for the inspection of horses and ponies, and reporting on their management and treatment should be veterinary surgeons, in view of the special qualifications held by them.

2. That the first paragraph of Schedule 3 of the Bill should be so worded that it would be impossible for any other person than a veterinary surgeon to apply the prescribed test, and to certify any animal to be free from glanders.

It was also resolved to send a copy of this resolution to the solicitor of the Royal College of Veterinary Surgeons, to be forwarded to the Right Hon. Hy. Masterman, Secretary of State, without delay, and that each member of the Association send a copy to the Member of Parliament representing his constituency.

The members afterwards had tea together at the Hotel.

JAMES H. TAYLOR, Hon. Sec.

LIVERPOOL UNIVERSITY VETERINARY MEDICAL SOCIETY.

A general meeting was held at the University on Tuesday, December 5th, at 3.30. Present: Jno. Share-Jones, Esq., President, in the chair; Messrs. J. Sumner, H. Sumner, J. B. Wolstenholme, E. Wood, Thos. Dobie, W. J. Fletcher, G. H. Locke, Frank Jones, F. A. Ball, F. S. Warburton, J. Maguire, T. G. Duggle, A. Walker, H. Holroyd, A. W. Noel Pillers, D. C. Matheson, A. B. Mattinson, T. Eaton Jones, W. Woods, and A. Richardson.

Apologies for non-attendance were received from Messrs. R. Hughes, A. Taylor, E. Faulkner, H. J. Hewetson, D. M. Storrar, and J. P. Heyes.

Mr. J. W. BRITTLEBANK, of Manchester, was proposed for membership on the proposition of Mr. G. H. Locke, seconded by Mr. J. B. Wolstenholme.

On the motion of the President, it was unanimously agreed to send a letter of sympathy to Mr. W. A. Taylor expressing the sincere hope that he will be speedily restored to health.

The PRESIDENT reported that the mare upon which the operation of ovariectomy had been performed prior to the last meeting was on view.

PATHOLOGICAL SPECIMENS.

NOTES BY MR. D. C. MATHESON.

1. *Fibro-Adenoma—Mamma.* Two bitches, showing the type commonly met with in the posterior mammae of old bitches. Both were cystic and undergoing processes of ossification.

2. *Lipoma in the Mesentery.* The chief interest in this case was the fact that the growth had caused strangulation of a portion of the rectum.

[Mr. J. B. Wolstenholme.]

3. *Septic Arthritis and Ostitis in a Dog.* The enlargement of the carpus came on somewhat suddenly, and continued to increase in size for a month. The dog had previously had a similar swelling in the hind legs, but that had gradually disappeared. There was no skin wound.

On opening the enlargement pus escaped freely, and upon dissection it was found that the distal extremity of the radius and ulna were extensively affected with ostitis and periostitis.

[Mr. W. J. Fletcher.]

4. *Tuberculosis* affecting the vertebrae of a pig.

5. *Sarcoma.* Bitch. Unusually large, completely surrounding one kidney, which, however, was intact.

[Mr. T. S. Atkinson.]

6, 7, 8. *Psammoma.* These were of the usual type, commonly termed Psammomata in veterinary pathology—they differ from tumours so described in human pathology. On this account it has been suggested that they might be termed Cholesteomata. This term, however, closely resembles that appropriated by another type of growth occasionally met with in human pathology, but rarely encountered in the lower animals. The close resemblance of the two terms, as pointed out by Mr. Fadyean, would perhaps tend to confusion if the first were adopted.

[Mr. S. Jackson, Mr. A. Richardson.]

PSAMMOMA.

Mr. J. B. WOLSTENHOLME. A brown cart mare, 10 to 12 years old, was bought from an unknown dealer at the end of September, and examined after purchase, it was reported as "worn and a shiverer." Admitted to hospital on October 3rd, reeling, and had very little control of the limbs. Pulse 72, temperature 101. The symptoms suggested cerebral trouble, possibly due to over feeding, as "feeding well" had been reported.

A dose of physic was given, the stomach and bowels were relieved, the mare seemed well, and went out of hospital for work on October 6th.

After this it was stated that the mare dragged the load along in an aimless, semi-staggering, wandering condition, with head low down to the ground. She would fall down without warning. She fell at work on the 21st October. On the morning of the 22nd she was found on the floor of the stall and could not rise; pulse and temperature practically normal. Was got up with slings, but couldn't stand, laid in the slings with head to the floor. No paralysis. Became violent at times; had to lower to the ground and secure the legs.

Died at 5 a.m. October 23rd. On exposing brain the vessels were seen to be congested, and a considerable quantity of straw-coloured clear serous fluid gradually ran to the ground.

9. *Carcinoma Mamma.* Male dog, a somewhat uncommon condition.

[Mr. A. Richardson.]

10. *Fibro-Lipoma.* Abdomen, pig.

[Mr. E. Burdred.]

11. *Esophagus Cow.* Showing extensive thickening throughout, but no indications of malignant disease.

[Mr. Edwards, Mold.]

12. *Epithelioma of Stomach, Horse.* A specimen of interest on account of the comparative rarity of gastric cancer in the lower animals. The growth was a squamous celled epithelioma, originating in connection

with the left sac of the stomach; the growth was of a large size and had invaded the right sac.

13. *Epithelioma.* Bowel, horse. A cylindrical celled tubular epithelioma the size of a child's head, and obstructing the lumen of the bowel. Two small growths of an identical histology were present in the substance of the liver.

[Mr. H. Sumner.]

DISEASE OF SUSPENSORY LIGAMENT:

CHRONIC INFLAMMATION.

Mr. J. MAGUIRE. Carriage horse 16-2, 4½ years, had been put to work at 3½ years. At 4½ years showed symptoms of lameness. After returning from work he would raise one hind leg and keep it suspended for a few minutes, then place it on the ground again: a little while after the same would be done with the other leg.

While standing he would put the weight of the hind quarters on the toes, the pasterns would be bent back and down, the hocks nearly straight, as it were fully stretched, the pelvis raised, giving the appearance to the hind quarters of being some two or three inches higher than the fore quarters; the fore limbs were set back under the chest.

The symptoms were more or less aggravated according to the amount of work done. A peculiar feature was the horse constantly assumed a lying posture, rarely standing up. On returning one day he lay down and continued to do so for a fortnight except for short intervals of feeding. At this stage he showed all the symptoms of an acute shiverer. There was also a swelling at the seat of curb. Otherwise there were not any positive indications of disease.

Gradually these symptoms subsided and the animal was apparently progressing favourably when an attack of congestion of the lungs finished his career. The ligament was twice the normal thickness and rounded on section.

15. *Osteoma.* Jaw of a horse, originating in the neighbourhood of the second molar. (Mr. J. P. Heyes).

16. *Carcinoma.* Testes in dog in size three times the normal, lobulated externally. The other testicle had undergone atrophy and was about the size of a horse bean.

(Mr. P. Carter).

17. *Melanoma of lip.* Red cow.

18. *Tuberculosis of the liver.* Fowl.

GASTRITIS AND INTUSSUSCEPTION.

Mr. RICHARDSON. The horse from which this specimen had been removed had been in perfect health apparently up to within three weeks of the time of its death.

It was an aged Clydesdale gelding—when first reported out of health the symptoms shown were those of defective vision and change of manner—was apparently stubborn and awkward, and responded slowly to the word and sound, as the carter said, "wrong in his head." When being led he had a peculiar boring movement, and was conducted through ordinary traffic with difficulty.

Upon examination there were no local indications of eye disorder, and the constitutional symptoms were negative. The nerve symptoms became more pronounced and three days prior to death they became more violent in character. The restlessness, elevation of the head, excitement, and increased difficulty of control, together with stumbling when moved were the chief symptoms. Ultimately he got down and was unable to rise, and died of exhaustion.

Two specimens of cases of gastritis in the dog were shown, each showing a condition not frequently reported—that of eversion of the duodenum into the stomach. Some inches of the duodenum being everted and in one case there was also intussusception.

Referring to the specimens of psammoma the President observed that the cases reminded him of a brain which was handed to him for dissection some time ago. It was taken from an animal, a patient of Mr. James Sumner which had developed symptoms similar to those described in these cases. Psammoma had been suspected, but no tumour had been found in the ventricle, so the brain was sent to him for dissection. During dissection he (the President) found a number of very small gritty bodies along the edges of the velum interpositum. The bodies were of a yellowish colour, and a microscopic examination showed that they consisted of or contained crystals of cholesterol, which were a characteristic constituent of psammoma. He had never seen cases of this kind reported, and he would like to hear from Mr. Matheson or Mr. Wolstenholme whether they had encountered the condition.

Both these gentlemen replied to the effect that they had not observed the condition.

At the conclusion of the pathological demonstration a vote of thanks was accorded to Mr. Matheson.

SOME OBSERVATIONS ON BOVINE TUBERCULOSIS AND A PURE MILK BILL.

By A. B. MATTINSON, F.R.C.V.S.

The subject of bovine tuberculosis and its eradication is one of paramount consideration to the stockowner and the whole of the agricultural industry; various suggestions and schemes have from time to time been put forward, but as yet the State, in the United Kingdom, have not considered the subject of sufficient importance to introduce any legislation, with the exception of the Tuberculosis Order of the Board of Agriculture of 1909.

Various reasons may be advanced for this apparent indifference, amongst which the following are probably the chief ones:

1. The ubiquity of the disease, which makes the problem appear too big to be tackled.
2. The probable cost of eradication.
3. The objection of unintelligent stockowners, who do not appreciate the insidious nature of the disease, and who object to all restrictions.
4. The absence of sufficient political power to force the hands of a Government.
5. The belief that it may be got under subjection by private enterprise alone without State aid.
6. The common belief in the unreliability of the tuberculin test.
7. The question as to whether the end would justify the means.

Before going into these objections to a scheme of eradication, it may here be advisable to recall the agitation of the Federation of Butchers Association in 1908 for a warranty as to soundness of cattle bought by them for slaughter, which in this case really amounted to a warranty of freedom from tuberculosis, and which at the time raised the question into great prominence amongst Butchers' and Farmers' Associations. The butchers demanded this warranty to avoid all trade losses, and the farmers with equal unanimity refused to give it, and insisted upon the State paying for all losses for meat "cut down."

To a disinterested party the attitude of either—to expect that one should alone bear the losses of the other—seems equally illogical; and compensation by the State is equally out of the question. No Government can reasonably be expected to provide funds merely to indemnify an individual or trade against monetary loss unless the State is to be the gainer; if public money were to be spent otherwise in a case of this nature it would simply amount to paying an individual that he should abstain from foisting a noxious article upon the

public, and this can already be prevented by the Public Health, and Foods and Drugs Adulteration Acts. Compensation under the Diseases of Animals Acts was never intended to indemnify an individual against trade losses, but is essentially, where the Acts are administered in a wise and sympathetic spirit, a payment to reward an individual who assists the State in the permanent suppression of a cause of national loss.

There cannot be two opinions amongst those acquainted with the subject regarding the great losses to agriculture annually from the scourge of tuberculosis, and the opinion that it can be controlled is undoubtedly gaining ground. The majority of advocates of leaving this question to the individual are those who have no pecuniary interest in agriculture, and no material knowledge of the live stock industry of the country. The Tuberculosis Order of the Board of Agriculture and Fisheries of 1909 makes it evident that that body appreciates the necessity and wisdom of tackling this question, but party exigencies in the House of Commons have necessitated that the Milk and Dairies Bill of 1910, upon which the above mentioned Order depended for its existence, be left in the background.

That the Tuberculosis Order should have depended upon the Milk Bill was to be greatly regretted. The question of bovine tuberculosis is big enough and important enough to have merited a Bill of its own, and it is to be hoped that it will eventually be approached directly by the Board of Agriculture, and not merely receive cursory treatment at the hands of lay inspectors of the Local Government Board. I may here say that I regard as laymen all inspectors of meat, dairy, cattle, and cowsheds who are not veterinary surgeons, with the exception of a few gentlemen highly qualified in such work and well known to all of us.

The only comprehensive and economical system of dealing with bovine tuberculosis necessitates that the whole of the administration should be in the hands of one body, and that body should be the Board of Agriculture. The eradication of tuberculosis is not to be regarded as a subject alone: it cannot reasonably be separated from its corollary—the inspection of meat intended for human food, and the officers who are supervising the one are the only ones to see to all, for each is complementary to, and intimately associated with, the other. Where a dual system of inspection by the officers of the Board of Agriculture and the Local Government Board goes on, differences must occur: the Medical Officer of Health will not allow his preserves to be encroached upon by the Veterinary Officer, and it is the duty of the latter to return the compliment. If either interferes with the work and duties of the other friction must ensue, and efficiency will suffer, this entails a waste of public money in all cases, and also reflects adversely on the results obtained by any measure. All measures affecting directly the health and usefulness of live stock should undoubtedly be controlled solely by the Board of Agriculture, and the appended scheme is founded on such a system, which can only be obtained by complete harmony and co-ordination between the Agriculture Associations, Veterinary Schools, County Councils, and the Board of Agriculture; all working for the benefit of the agricultural and live-stock industries, the welfare of which is of national importance.

That there should be an almost perpetual and acrimonious warfare of words between the veterinarian and the Medical Officer of Health as to whom is the greater authority on dairies, meat, etc., is greatly to be regretted, and wholly unnecessary if each will stick to his legitimate offices. We have it on great and ancient authority that "the tongue is an unruly member," and on that account this controversy has from time to time degenerated to a very low degree: the only efficient safeguard against personal and professional enmities and differences is for each department of Government

to jealously safeguard the interests of the class whose welfare it has charge of, but at the same time for all to loyally assist each other in matters pertaining to the public weal. I have a profound respect for the Medical Officer of Health, and the invaluable services which he renders to the community, but one cannot allow him to assume professional control because he belongs to the senior service: such an argument would be equally reasonable (and equally foolish) if applied by a Naval officer desiring to lead a cavalry charge, by a Chief Constable to a Borough Surveyor, or even by a Town Clerk to a Medical officer of Health.

No legislation on the subject will satisfy all parties, on the contrary it would most likely be stoutly opposed or else killed by apathy unless the press should take the matter up more fully: this would be a questionable gain, as it would probably spread a popular misconception that the dairy farmer and cowkeeper were responsible for the spread of most, if not all, of the diseases which human flesh is heir to.

It is important that any measure for the eradication of Tuberculosis should be as free as possible from harassing and vexatious regulations which would seriously affect the live stock industry, but at the same time it must be sufficiently systematic and restrictive to ensure the control of this scourge.

Any such scheme would necessitate eventually the provision of Public Abattoirs and the efficient inspection of meat, instead of the chaotic, spasmodic, and practically futile efforts of a multitude of lay inspectors of local authorities, whose territories have not the area or rateable value to enable them to pay a properly qualified person to perform these duties. Such a system of inspection would benefit the farmer, for it would enable him to command a higher price for his products, help to resuscitate the home meat trade, and command the attention of the consumer to the benefit of purchasing home grown produce which is practically guaranteed to be pure and wholesome by the local authorities. Although all classes, and most particularly agriculturists are averse to governmental restrictions (the latter most particularly so) it seems probable that the thanks of the coming generation of farmers and stockowners will be freely given to the Imperial and local authorities who extend their sphere of usefulness to dealing in a systematic and organised manner with this and other subjects of prime importance to agriculture which are at present partially or wholly neglected.

Proceeding to deal with the objections to legislation for the eradication of Bovine Tuberculosis, the arguments previously set forth are as follows:—

I. The ubiquity of the disease. This is certainly one of the strongest reasons and it is impossible to have any pecuniary interest in Live Stock without becoming painfully aware of it. Figures of all sorts have been given to show its prevalence, but in a paper of this kind it is not advisable to enter into them, as the accuracy of all is problematical and in a time honoured phrase, "Statistics may be made to prove anything." The moral aspect of this objection, is however the best answer to it, and the fact that a great evil is exceedingly prevalent and very widespread, is all the more reason why the State should make a determined and continuous effort to cope with it.

II. The cost of eradication. This, like the previous objection has been backed up by figures which befog all but the individual who elaborated them, and although it would be folly to embark upon such a great undertaking without regard to the annual and ultimate cost, it would be better for the officials of the Board of Agriculture to prepare some disinterested statistics giving an approximate idea of the prevalence of the disease in the various counties, and this can only be done with any degree of accuracy by first scheduling the disease. Tuberculosis should not be classified nor compared with rapidly spreading epidemics, such as Foot and Mouth disease,

Pleuro Pneumonia, &c. It is a disease of comparatively slow progress, and thus lends itself to a policy of clearing one district, or group of districts at once, thereby curtailing expenses of administration and eradication.

III. The objections of Stockowners to legislative restrictions.—These have in the past been largely brought about by the method of administration of the Diseases of Animals Acts, and the objection to having diseases diagnosed by constables, half-pay officers, and other friends of someone in authority. These objections, it is to be hoped, will be removed by an improvement in system, but sad to say this method although sure is exceedingly slow; could the office of President of the Board of Agriculture only be occupied for a few years by an orator who could give full and liberal information on the best manner of growing "rare and refreshing fruits for the parched lips" of the down-trodden clod-hoppers, I believe it would be possible to convert agriculturists very rapidly to the benefit to be gained by reasonable restrictions.

Apart from this, however, the objection of one class must not be allowed to interfere with legislation for the benefit of the majority. Reference to legislation in the last decade gives many instances of how individual and class objections to numerous measures, have, rightly or wrongly, been wholly disregarded by Governments, except where it has been on some matter largely affecting votes.

IV. The absence of sufficient political power to force the hands of a Government.—This is a very important power in the hands of all organised industries. Members of trades unions largely support the claims of each other, and thus they can exert great political pressure upon a party, as well as run numerous Members of Parliament. The Central Chamber of Commerce is opposed to the Principle of running "agricultural" candidates for Parliament, as it is questionable if they could do so successfully, and it is equally doubtful if farmers will ever collectively be able to exert great political force.

V.—The belief that Tuberculosis may be eradicated by private enterprise unassisted by State aid.—It is hardly unreasonable to question the *bona fide* of the advocates of this principle: it may be taken to be founded on apathy, ignorance of the subject, or a desire to shelve it to make way for other measures in which the party or individual has more interest, or which is more likely to appeal to the majority of the electorate.

VI. The common belief in the unreliability of the Tuberculin test. This has been originally quite justifiable, but owing to the great improvement in this and all other biological products and the standardization of the same there is now little reason for it. It is comparatively easy to prove to any intelligent individual that the test when properly applied gives an exceedingly small margin of error. The standardization of Tuberculin, and its issue by the State alone to properly authorised persons is the only method of completely defeating this objection and preventing the fraudulent application of the test.

VII. The question as to whether the end would justify the means. During one of the early sittings of the Royal Commission on Tuberculosis, Sir Thomas Elliott is reported as having said, (with reference to the necessity of legislation for the eradication of Bovine Tuberculosis) that "If it were possible it is not necessary, and if it were necessary it is not possible." At that time the possibility seemed much more remote than at present, but it is difficult to understand the reason for stating that even if possible it was not necessary. One cannot foretell the result of the enactment of even the most mild and unsophisticated looking bill, but I believe that it would be possible to proceed cautiously with this subject, and to show the ultimate advantages of such legislation.

(To be continued).

Another Ringbone Case.

Before Sheriff Napier at Kirkcudbright on Tuesday, November 14th, proof was led in an action by Thomas Black, farmer, Parton Mill, against Hugh Crawford, horse dealer, Cotton Street, Castle-Douglas, tenant of Marchfield Farm, Castle-Douglas, in which pursuer seeks decree for payment of £37 from defender as the price of a three-year-old Clydesdale gelding belonging to him, which was exposed at Mr. Carson's dispensing sale at Diamond's Laggan on 20th May, and bought by defender. The horse was by arrangement kept at Parton Mill for a short time after the sale; and thereafter defender refused to take delivery of it on the ground that it was suffering from ringbone and disconform to warranty. The horse was put up at livery in Castle-Douglas, and ultimately sold by auction under a Sheriff's warrant. It was bought at that sale by a brother of the pursuer for £30 9s., and is now again in possession of pursuer, at Parton Mill.

Mr. W. Nicholson, solicitor, Kirkcudbright, conducted the case for pursuer, and Mr. J. R. Saunders, solicitor, Castle-Douglas, for defender. Mr. Milligan, solicitor, Dalbeattie, watched the case on behalf of Mr. T. Campbell, V.S., Castle-Douglas.

W. Wallet, auctioneer, Castle-Douglas, the first witness, stated that Mr. Black sent a four-year-old filly and a three-year-old gelding to the Diamond's Laggan sale. Both were warranted "quiet and sound as far as known." The filly was passed at £31.

Mr. Saunders, in cross-examining, regarding the subsequent sale under warrant, said: You don't attach much importance to the price that was obtained at the second sale?—No.

You know that is a matter which can be very easily arranged?—I may think what I like, but I don't say so.

By Mr. Nicholson: The second sale was quite a *bona-fide* one. He had heard that Mr. William Johnston, horse dealer, was the last bidder, but that he omitted to take his bid.

Thomas Black, pursuer, deposed that the gelding was bred by himself, the sire being a horse belonging to Mr. Picken, Torrs; he thought "Keir Victor." It was not at all likely that Mr. Picken would keep a horse having hereditary ringbone or likely to produce it. He understood that such horses were generally exported to get rid of them. This gelding had been treated in August of last year for a sprained shoulder, but the lameness caused by that soon disappeared, and there had been no subsequent lameness. Mr. Campbell, V.S., Castle-Douglas, who attended it at that time, "chapped" the feet with a hammer and told him that he was right in the legs and feet. On Wednesday, 24th May, he received a letter from defender, dated the 22nd, in which he said: "I am sorry to inform you that I have been informed that the gelding you presented at Diamond's Laggan sale on Saturday, and which I purchased, is a lame horse, and that you presented him for sale knowing he was a lame horse, and failed to disclose same. Therefore if this be true I refuse to take him." That was the first suggestion he heard from anyone that the horse was suffering from lameness. He did not answer the letter, but Mr. Crawford came to his place on the Saturday afternoon, and they again met in Castle-Douglas on the Monday. Witness thought it was simply a case of rue-bargain with him. He was so confident that the gelding was right that at the meeting in Castle-Douglas he offered to send one of his men down to Marchfield with the horse to have it examined by Mr. Campbell, V.S., on the footing that if it was passed by him it was to be left; if not, it was to be taken back and there would be no more about it. Mr. Crawford agreed, and witness, in pursuance of that agreement, went to Mr. Campbell's office and arranged for

him to examine the horse next day. He told Mr. Campbell that defender was refusing to take delivery because he said it was lame, and that was what he had to find out. Witness did not himself go with the horse, but sent his man, James M'Gaw, and when M'Gaw returned he reported to him that Mr. Campbell, after trotting the horse and examining it, said there was no lameness about the horse. The same afternoon he received a telegram from Mr. Campbell asking him to go to Marchfield at four o'clock for a second examination of the horse. He went to Marchfield, but after waiting for two hours, and Mr. Campbell not coming, he left. The horse came back that night, and along with it was a pencilled note from Mr. Campbell to this effect: "I am very sorry I did not meet you as arranged. Mr. Crawford waited, and the horse was pulled out and trotted. He went very lame on the near fore leg. I did not observe the lameness in the morning, but after the rest he has shown it." In that certificate there was nothing about the horse suffering from ringbone, and he would have expected him to mention that if he had seen such a thing. The horse had been put into the stable during witness's absence from home, and afterwards into a loose box. The loose box had been occupied by calves, and there was dung in it, which covered the horse's hoofs. Next day it was put into the field, and soon afterwards M'Gaw drew his attention to a bruise on the top of one of the hoofs. Witness said he would get to the bottom of the thing, and went and saw Mr. Campbell, who expressed surprise that the horse had developed lameness between the two examinations. Witness asked if he would be surprised to learn that the horse had suffered an injury between the two examinations, to which he replied that he "never jaloused that." Next day witness sent for Mr. George Nicholson, V.S., Kirkcudbright, who examined the horse, and certified that it was going lame from the result of a recent injury.

Mrs. Black gave corroborative evidence on several points.

Thomas James Campbell, V.S., Castle-Douglas, spoke to having paid three visits to Parton Mill in August last, when he treated the gelding for temporary lameness caused by sore shoulder. There would be no malafides on account of that temporary lameness on the part of the seller in representing that the horse was sound in the month of May. It was unusual for a young Clydesdale up to age of three, which had never been worked, to suffer from ringbone. Sometimes ringbone was caused by injury, but in a young animal that had never worked it was generally due to hereditary predisposition. When he examined the horse in August he did not find any ringbone about it. It was for lameness that he was asked by Mr. Black to examine this horse. Mr. Crawford had seen him before that, and also asked him to examine it for lameness. When making his first examination Mr. Kerr, Barnboard, and Mr. Craik, defender's foreman, both suggested that the horse was lame, and witness took the horse out on to the public road to satisfy these men, and they ultimately agreed with him that the horse was not lame. When he left Marchfield, after examining the horse, he went and reported the result to defender, which was that the horse was trotting sound, and that he had passed it. Defender suggested that witness should have lunged the horse—that is, have it run round in a circle—and he replied there was no need to do so for the purpose remitted to him. He agreed to go back in the afternoon to satisfy defender that the examination was correct. It was entirely at defender's request that he went back a second time. He discovered the presence of ringbone at the first examination, but he had not been asked to report on that at all. It was at defender's request that he examined the horse for soundness, and reported that there was ringbone, and that the horse was unsound. He had no previous communication with Professor

McCall before he mentioned the word ringbone. It was after his second examination that it was suggested an accident had occurred between the examinations. He went to Parton Mill and saw the horse again. The injury on the foot might have been sufficient to cause the lameness that was there. The injury to the hoof head, together with the ringbone, would increase the lameness.

Cross-examined: When he instructed the horse to be taken back to Parton Mill he thought he was doing what in the circumstances was right. He did not see any mark on the horse's hoof at the second examination. He saw the horse again on 9th June in the Crown stables, and found it was then going sound. The wound was then healed up.

Mr. George Nicholson, M.R.C.V.S., said he examined the horse on June 3rd, and granted a certificate that a recent injury to the hoof head of the near fore foot was the cause of the lameness which was then present. He did not examine for ringbone, and what he saw would have entirely prevented anyone diagnosing ringbone at that part. It was improbable that ringbone was the cause of the lameness that he saw. On Sunday last he had tested the horse again and found it going sound.

Cross-examined: The cause of the injury might have been a bruise.

James McGaw, ploughman with pursuer, testified that the horse was going sound at the sale and at the first examination. Afterwards he found that both skin and hair had been taken off the foot by an injury.

James Milroy, who had been in pursuer's service for twelve months, corroborated. He never told Mr. Craig, a relative of his, the horse was a lame one. He got a letter from Mr. Saunders, in which it was stated he had said so, and asking him to give evidence for the defence.

John Miller, farmer, Mid-Kelton; Richard Porteous, farmer, Barber's Hall; William Kerr, farmer, Campdouglass; Hugh Parker, farmer, Borland; Francis Burns, dealer, Rhonehouse; and William Brydon, farm manager, Redcroft, spoke to having seen the horse at various periods, and testified that on these occasions it was going sound.

This closed the evidence for the pursuer, and the Court adjourned.

SECOND DAY.—DEFENCE.

Principal McCall, F.R.C.V.S., of the Glasgow Veterinary College, examined by Mr. Saunders, said that on June 9th, at the request of Mr. Campbell, V.S., he examined the horse in question at the Crown Hotel, and granted a certificate to the effect that the horse was going lame in the near fore leg, and with a thickened hoof head, and that the horse was unsound and suffering from ringbone. He could not say how long the ringbone had been there, but thought he would be justified in saying that it had been present for three months and probably longer.

If told that the horse had been treated in August, 1910, for lame shoulder on the same leg, what would that suggest?—It might be the early stages of ringbone. It should not have been difficult to detect either by the eye or hand. In the first stage there was no enlargement. A horse with ringbone was not always lame. In the early stages the horse would be lame, but after the horse had grown there might not be any lameness at all. He saw the mark on the horse's hoof, and concluded that it was a wound healed up. He did not think the wound would cause the lameness. It was simply a skin wound. He believed the lameness arose from ringbone.

Would you be surprised to hear that a certificate had been given that the horse was going sound in the morning and another certificate on the same day that the horse was going lame?—I would be very much surprised

to learn that a horse was going sound in the morning and lame at night with ringbone.

David Craik, foreman to defender, went there on 27th May. He was there when the horse was taken to Marchfield. Mr. Campbell was not present when the horse arrived, and the horse was put in a stable. He saw the horse at a distance being examined. He saw the horse trotted and noticed it was lame. Mr. Kerr was present and asked witness if he noticed that the horse was lame. He saw the horse trotted on the road, and he showed lameness there too. Mr. Campbell asked witness what he would do, and he replied he had got no instructions. He afterwards arranged with Mr. Campbell to take the horse in subject to Mr. Crawford's approval when he arrived. Mr. Campbell said nothing to him about the lameness of the horse, but he was satisfied that the horse was lame, and that was his reason for not wishing to take the horse in. Mr. Campbell came back a second time, and the horse was again brought out. There was no one near the horse that he knew of while it was in the stable at Marchfield. At the second examination the horse was going more lame than in the morning. He saw no mark on the horse before it was sent back. Witness certainly made no mark on it.

Cross-examined—From the time the horse arrived at Marchfield till the arrival of the vet., it was in the stable. He could not say how long Mr. Campbell was at Marchfield. Witness did not remember saying to Mr. Campbell that the horse was lame. He saw the horse trotted on the road, and he said to Mr. Kerr that he thought the horse was going lame. There were no other horses in the stable.

Peter Kerr, farmer, Barnboard, was at Marchfield when the horse was brought out of the stable. He saw it examined by Mr. Campbell. Witness and Craik remarked on the lameness of the horse. He did not hear any remark pass between Campbell and Craik about the lameness of the horse. Witness was satisfied that the horse was lame, and he could not remember having been asked by Campbell if he was satisfied that the horse was going all right. Mr. Campbell said the horse was certainly lame, and witness, on Mr. Campbell's instructions took the horse back to Parton Mill.

Cross-examined: Mr. Campbell examined the horse's hoof-head and said the horse had ringbone. Witness was formerly in defender's service.

Thomas Smith, farmer, Cogarth, which adjoins Parton Mill, said he saw the horse exposed for sale at Diamond's Laggan. In August or September, 1910, Mr. Black told him the horse was lame, and witness went with pursuer to see the horse, and suggested that the lameness was in the pastern joint. The horse had a blister on. He saw the horse for about two months after that, and it was still going lame. He also saw the horse being taken to Marchfield by McGaw, and remarked to McGaw that the horse was a bit lame.

Cross-examined: He had always been friendly to Mr. Black, but he did not think that the pursuer had been friendly to him. The lameness was quite visible to any ordinary observer.

Matthew Dalling, dealer, Castle-Douglas, was in Mr. Campbell's office at Castle-Douglas on a certain day, and he heard pursuer say to defender that the injury he surmised, must have been caused by defender or his man.

Hugh Crawford, the defender, said that the horse was sold at Diamond's Laggan on pursuer's warranty, and the horse was sound as far as he knew. After the sale he asked pursuer to take the horse home and work him for 10 days. He afterwards saw Smith, Cogarth, who in course of conversation said that the horse was a wrong one and would always be so. When witness saw pursuer at Marchfield he said he had not gone there for the horse, but to see him about the truth of the story that he had heard about the horse being a wrong one.

Pursuer said the story was a lie, and that there was some snake in the grass, and that the horse was a sound one. He further said that in order to save talk about the horse being rejected, they might arrange for defender to take the filly instead of the gelding, and give £1 more for it than was offered at the Diamond's Laggan sale, where it had been withdrawn at £31. That arrangement was not carried out. Pursuer offered then to submit the gelding to a V.S. examination, and Mr. Campbell was instructed, but witness's understanding was that the horse was to be examined for soundness and not merely for lameness. Pursuer told him also during the conversation that the story about the horse being a wrong one did not apply to the horse defender had bought, but to the filly. When Mr. Campbell came to report the result of his examination, he said the horse was going sound, but he refused to give defender a certificate of soundness. The horse was never interfered with by defender or his men when in the stable at Marchfield. At the second examination Mr. Campbell said the horse was affected by ringbone. It was Mr. Campbell who sent the horse back to Parton Mill. Mr. Campbell said that the cause of the mark on the horse's hoof might have been caused by the toe of a man's boot. He was in Mr. Campbell's office when Mr. Black came in, and in reply to a question by defender, pursuer said he would not go the length of saying that defender or his men had put the mark on the horse's hoof. It was because Mr. Campbell would not grant a certificate of soundness that he (witness) refused to take the horse back.

Cross-examined: It was not merely the question of lameness that was to be submitted to Mr. Campbell, but the question of soundness. He did not examine the horse on the day of Diamond's Laggan sale. Witness did not see any lameness in the horse at that sale. It was because of Mr. Smith's statement that the horse was a lame one and always would be that he wrote to Mr. Black asking if it was the case that what he heard regarding the horse was true.

Evidence in the action was concluded with the examination of Mr. William Johnston, horse dealer, Dumfries. Mr. Johnston said he saw the horse in dispute sold at Castle-Douglas mart in June, and made a bid for it, but it was knocked down just then, the auctioneer not noticing his bid. A few days afterwards he made arrangements to see the horse at the Crown Hotel on the day of Keltonhill Fair. It was then trotted out, and he saw at once that it was going lame, and he said he would not buy it. He would rely on his own judgment in regard to lameness. If a horse was submitted to a vet. for examination, the examination would be for soundness. He thought this horse was going sound at the time of the auction sale.

The case was adjourned for debate.—*Dumfries and Galloway Saturday Standard.*

Personal.

Dr. CLEMENT STEPHENSON, F.R.C.V.S., Newcastle-on-Tyne, has met with a serious accident. He was attending the Smithfield Show, London, and stumbled over a small staging near one of the cattle pens. He sustained an injury to the thigh, and was badly shaken. Dr. Stephenson was medically attended, and conveyed home to Newcastle. He has since been confined to bed, and attended by a doctor, and is still suffering badly from the injuries; his condition has not materially improved.

Mr. R. J. STORDY Chief Veterinary Officer to the East Africa Protectorate, left Nairobi en route for England some time since. He was travelling overland through Abyssinia with a view to enquiring into the veterinary problems of that country, and if possible establishing a horse and cattle trade between Abyssinia

and East Africa. Proceeding as the agent of the British Government, he is accompanied by Lord Cranworth who has large interests in the East African Protectorate. They expected to arrive at Aden early in December, the overland journey lasting about three months, and are due to reach England about Christmas time.

Dr. CHAUVEAU has resigned the post of Inspector-General of the French Veterinary Schools and has been appointed Honorary Inspector-General.

Dr. CHAUVEAU, who had distinguished himself in Anatomy, Physiology, and Pathology before the majority of us were born, is not going to retire from research work, notwithstanding his great age.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,
WAR OFFICE, WHITEHALL, Dec. 8.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Supern. Capt. (Hon. Vet.-Lieut. in the Army) W. S. Mulvey, from the 4th London Field Co., 2nd London Divisional Engineers, R.E., to be Capt. Dated Dec. 9.

ORDER OF THE INDIAN EMPIRE.

INDIA OFFICE, Dec. 12, 1911.

The King-Emperor has been graciously pleased to make the following Promotions in and Appointments to the Most Eminent Order of the Indian Empire:

* * *

C.I.E.

Lieut.-Col. George Henry Evans, Officiating Inspector-General, Civil Veterinary Department.

OBITUARY.

J. M. WATSON, M.R.C.V.S., Govt. Veterinary Surgeon, Pretoria, S. Africa. Graduated, Edin: March, 1896.

The intimation of Mr. Watson's death states that it occurred early in November, but no particulars are to hand.

EDGAR BELCHER, M.R.C.V.S., 165 Church Street, Kensington, W. Lond: Dec., 1905.

Mr. Belcher's death occurred on Sunday, 10th inst.

JOHN EDWARD TAYLOR, M.R.C.V.S., Piethorne, Rochdale. Lond: Dec. 1871.

Death occurred on Dec. 2, at the age of 61 years.

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Until recently I have always approached a case of "yellows" in dogs, with "fear and trembling" and little hope of success. However, within the last three months I have had 8 cases—3 foxhounds, 2 fox terriers, 2 greyhounds, and 1 borzoi, all of which recovered under the following simple treatment: white of an egg well beaten into a froth, four to eight daily, according to age, size, etc., of patient, 15 grains of concentrated peptone from fresh beef, per rectum, every three hours or oftener, as the case may demand. No other food or medicine.

I would be glad to know if any of your readers have tried this treatment, and if so, with what results.

I would also be pleased to learn if any researches have ever been made with regard to the spread of distemper by fleas, and if not, surely it would be worth a trial; experiments could be carried out quite possibly in some of our veterinary institutions.—Yours truly,

W. T. M. BROWNE, M.R.C.V.S.
Abbeyfield, Naas. Nov. 23.

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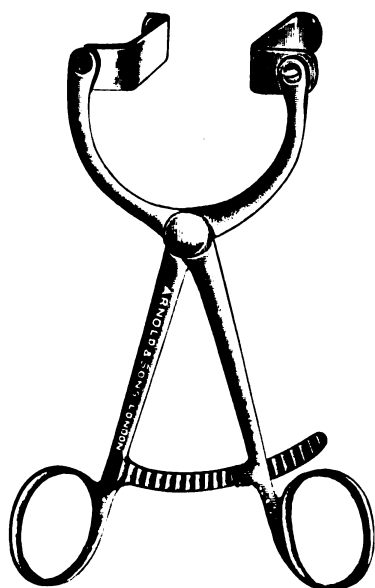
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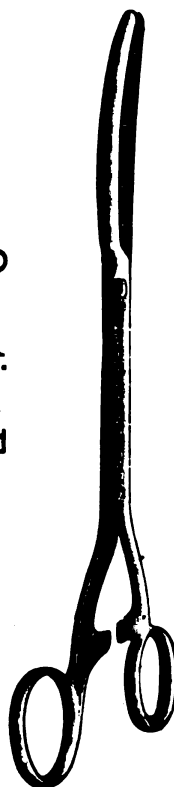


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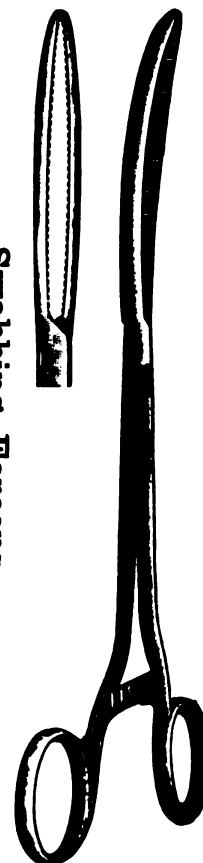


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A NEW VETERINARY ASSOCIATION.

To-day we report the inception of a new veterinary society in Connaught. The reason adduced for its formation, viz., the long distances at which its members reside from the meeting places of every other Association, is quite a good one. Of course, one strong Association is far preferable to a number of weak ones, and, however large a number of veterinary surgeons may be within an area in which one Society is accessible to all, that one Society should suffice. It would be a grave mistake, for instance, to found a new Society in London, which could only weaken the powerful one already established there. But the conditions are quite different in districts remote from existing Societies, in which, even though there are few resident practitioners, a union amongst them is more than desirable. The meetings may be less numerous, and the attendances may inevitably be smaller than in some other Associations, but if only a few members determine to make a local Society a success, a success in its own degree it will become. With adequate support this new Society is bound to do good—perhaps a great deal—in its own district, and indirectly elsewhere. To judge from its initial report, that support seems forthcoming, and we trust that it may continue.

FOOT-AND-MOUTH DISEASE.

One of the most noteworthy features in our professional history during the year just closing has been the exceptional frequency of visitations of foot-and-mouth disease. Nearly twenty outbreaks have occurred here—all, of course, being due to the transmission of infection from the Continent—and all have been quickly stamped out.

A Government enquiry has been instituted to determine, if possible, the agents by which contagion can be transmitted. This may increase our knowledge of the vehicles of transmission; but, if it does, it may be found economically impracticable to prohibit the importation of all possible carriers of infection. In that case, and also in the meantime, we may rest assured that the Veterinary Department of the Board of Agriculture can, and will, prevent much harm resulting to us from the prevalence of foot-and-mouth disease in Europe. It is solely due to the efficiency of that Department that the disease is not rampant throughout the kingdom to-day, and in that sense the year, though an anxious one, has been a series of triumphs for our State Veterinary Service. Each successive outbreak has been stifled at its commencement, and though nothing is more probable than that we shall have further visitations of the disease next year, the experience of the last few months teaches us that we have little to fear from them.

"MASSIVE" PULMONARY CANCER.

In man, pulmonary cancer (epithelioma) is a rare affection; and two macroscopic forms of it are distinguished, viz., the *massive* or *compact* cancer and the *diffuse*, *disseminated*, or *nodular* one.

In the first-named form, which is the most frequent, the neoplasm occupies a pulmonary lobe or the whole lung. The pulmonary tissue is whitish, yellowish, streaked with black, like Roquefort cheese, and ulceration is frequent.

In the second form, multiple tumours are found in the lung. The primary tumour is among these, unless the neoplasm is multiple in origin.

Prof. V. Ball records (*Journal de Méd. Vét et de Zootechnie*) a case of massive pulmonary cancer observed in a twelve-year-old dog, which is very interesting on account of the possibility of confusing it macroscopically with pneumonic lesions accompanied by necrosis. It also shows that massive pulmonary cancer may engender mortal complications of the pleura, following upon the ulceration.

During life, the dog in question had shown loss of appetite, emaciation, vomiting, and also respiratory disturbances, especially dyspnoea.

Post-mortem, the opening of the thorax released a hæmorrhagic liquid exudate, which was red, dull, abundant, and fetid in odour. The costal pleura was dull, had lost its polish, and was coloured bright red by the existence of numerous ecchymoses, with a slight fibrinous deposit. The condition was therefore one of hæmorrhagic and putrid pleurisy.

The right lung was affected by passive congestion. The left lung was soft and smooth, and its consistence was firm, recalling that of hepatisation, or more accurately, that of a pneumonia hyperplasic from the commencement. Upon the posterior lobe, about its inferior third and near to the interlobar fissure, was an oval crater-shaped ulceration, disposed horizontally, and about 4.5 inch long, 1.2 inch broad, and 1.3 inch deep. The wall of this ulcer was reddish-yellow and granulating; its edge was rather regular, as if undergoing cicatrization; and its base showed a hæmorrhagic speck. This ulcer had followed upon superficial necrosis of the pulmonary tissue invaded by the cancer, and represented the origin of the pleurisy.

The sectioned surfaces of the cancerous lung showed a homogeneous tissue, yellowish-grey in colour, with dotting and blackish deposits of anthracosis which gave it the general aspect of Roquefort cheese. Sections of bronchi were no longer visible.

Histological examination showed the growth to be an epithelioma, the cells of which were atypical. It seems, therefore, that it should be regarded as broncho-alveolar in origin.—(*Annales de Méd Vét.*)

W. R. C.

CONTAGIOUS PSEUDO-RABIES.

Cadéac describes a disease, the facts of which are culled from numerous original articles published by Hungarian veterinary surgeons, which is unknown in France and termed infectious false rabies. The affection, caused by an invisible virus that cannot be cultivated, attacks the majority of the digestive organs. It gains the system by the alimentary canal in consequence of wounds on the buccal or pharyngeal membrane. It is probably carried by mice and rats.

The incubation is very short. It is manifested by dullness, then continual excitement, pharyngeal paralysis, salivation, sometimes weakness of the hind quarters, and nearly always by violent pruritus at the point of inoculation. It is rapidly terminated by death.

To differentiate this malady from true rabies with which it may be confounded, there is an absence of furious delirium and paralysis of the jaws, the short duration of its course, and the non-virulence of the saliva. It is absolutely incurable. — *Journ. de Méd. Vét. et Zoot.* 30th Sept., 1911.

[Spurious rabies is sometimes encountered in the dog, in which self-mutilation, an insatiable desire to lick certain parts of the body, paralysis of the lower jaw, or delirium of a non-furious character are the chief symptoms. This spurious rabies is encountered in the later stages of distemper, in organic brain disturbance, etc.]

THE CYSTICERCUS CELLULOSÆ IN MAN AND ANIMALS.

According to Vosgien, a French veterinary surgeon, whose brilliant thesis on this subject for the Doctorate of Medicine has just been published in book form. "Measles" in the pig was well known in the time of Aristophanes. Rufus and Aristotle, as well as Aristophanes, recommended the examination of the tongue for the detection of this larval parasite. Albert the Great confounded this disease with leprosy. In the 16th century it was recorded that this disease attacked man as well as the pig, goat, antelope, and sheep. In man the meninges, brain, and subcutaneous connective tissue were its *habitat*. Hartmann, of Königsberg, discovered the animal nature of the cysts. Pallas, Linnaeus, and Fabricius considered they were the larvæ of the *tænia solium*, and Rudolphi gave them, in 1809, the name of *cysticercus cellulosæ*. In 1850 Van Beneden described the transmigration and metamorphoses of these cestoid worms, and the experiments of Hückenmeister, von Siebold and others left no doubt upon this fact.

The *tænia solium* is unknown in the torrid zone, it is frequent in Europe and particularly in Germany where it is as much as 2%. Measles varies from 0.008% in Wurtemberg to 0.244% in Oppeln (Silesia).

In France measles varies from 0.024 in the Bordeaux abattoir to 0.34 in the Parisian abattoirs, and to 0.27 in the abattoir of Limoges.

H. G.

LIVERPOOL UNIVERSITY
VETERINARY MEDICAL SOCIETY.SOME OBSERVATIONS ON BOVINE TUBERCULOSIS
AND A PURE MILK BILL.

By A. B. MATTINSON, F.R.C.V.S.

(Continued from p. 381.)

The essential feature is that tuberculosis be first scheduled under the Contagious Diseases (Animals) Acts and Orders, and the scheme gradually expanded, purely for the welfare of the live stock industry, and independent of any legislation of the Local Government Board.

It is not my intention to go into the scientific side of this question, nor to treat of the future possibility of its control by preventive inoculation, curative sera, animal sanatoria, or other methods of an enlightened future, but to enumerate as briefly as possible a number of factors which I suggest should eventually be considered as bearing directly upon the subject, and all of which will, I believe, have to be taken into consideration in a scheme which has as its foundation the improved health of live stock, and at the same time the safeguarding of the most important live stock products of meat and milk from diseases transmissible to mankind. To allow enormous loss of money to the nation by the neglect of animal health, and to then spend large sums on the inspection of diseased carcasses, savours of the policy of locking the stable door after the horse is stolen. It would appear much more economical, and far wiser, that money should be spent on inspecting live animals and their environment with a view to freeing them from disease rather than in solemnly viewing a carcass ravished by disease, and which exists as a monument to the misleading nature of the proverb that "It's never too late to mend."

The Dairies and Cowsheds Order deals with the environment of cattle, and would be a great factor in assisting the control of bovine tuberculosis if its provisions were duly carried out. This Order should be under the charge of the Board of Agriculture, and should not be administered by the Local, Urban, and Rural District Councils, but by the County Councils direct. The District Councils generally neglect to carry out this Order, and where any pretence is made to carry it out it is generally left to some Nuisance Inspector, who does most of it mentally, and in his office.

Professor Ostertag, in a paper read before the Association of Veterinary Officers of Health, in Glasgow, in September, 1910, concluded his remarks on bovine tuberculosis as follows:

1. In order to effectually check the further spread of tuberculosis in cattle, and to suppress the disease gradually, but comprehensively, State control is necessary.
2. The control must be limited to all open cases, those in the lungs and udder first, and then those in the uterus and bowels.
3. All such cases must be notified.
4. Cattle so affected must be slaughtered with the least possible delay on adjustment of compensation, and their stands and immediate surroundings disinfected.
5. To prevent the spread of tuberculosis by means of milk residue from collecting dairies, skimmed and butter milk and whey must be heated before use as food, and centrifuged slime rendered harmless.
6. Voluntary measures must be encouraged in furtherance of State action.
7. Uniformity of State practice and effectiveness of private action must be secured by the establishment of

a Central Court for the control of tuberculosis in the domesticated animals."

This last I emphasise as an argument in favour of the Board of Agriculture taking over the Dairies and Cowsheds Order, and carrying out this and all their other Acts and Orders through the County Councils, and not by smaller authorities.

The following paragraphs include most of the factors which I believe to be of the greatest importance in the control of this disease, they are merely a crude summary of these factors, and are not intended to be the last word on the subject. Possibly, however, they might reasonably be used as a basis for a scheme for the eradication of tuberculosis in bovines, especially as I believe it would be possible to proceed locally with their application.

LOCAL APPLICATION.

1. *Notification of Disease.* Every person having in his possession or under his charge (1) any cow which is, or appears to be, suffering from tuberculosis of the udder or other chronic disease of the udder, or (2) any bovine animal which is, or appears to be, emaciated from tuberculosis, or which appears to be affected with tuberculosis shall forthwith notify the local authority on the form provided for that purpose (Form A.)

Form A. Full name and address of owner, sex, age or apparent age, colour marks, and breed of suspected animal; owner's valuation; name and address of owner's veterinary surgeon; signed and dated by owner.

2. *Inspection of Suspects.* On receipt of notice (Form B.) from the local authority, the owner of a suspected animal shall permit a veterinary surgeon instructed by the local authority (Form B. 1) to examine such animal and apply the tuberculin test.

The veterinary surgeon shall within seven days forward Form C., duly completed and signed, to the local authority.

Form B. Formal notice of receipt of Form A. stating which veterinary surgeon has been instructed to examine suspected animal.

Form B. 1. Formal instruction to veterinary surgeon to examine suspected animal and to report on Form C.

Form C. Name and address of owner of suspected animal with full description thereof; estimated value; make or brand and quantity of tuberculin injected; temperature chart; report and remarks; dated and signed by veterinary surgeon.

3. *Marking of Reactors.* All animals which are reactors shall, for purposes of registration and identification, be marked by the veterinary officer of the local authority with a numbered earmark, affixed to the right ear, or such other mark, tattoo or brand as the local authority shall from time to time determine, the local authority shall keep a register of such mark or marks together with a full description of the animals marked, such description to correspond with Form C.

4. *Isolation, etc.* All reactors shall be isolated as directed by the veterinary officer, who shall serve the owner with a copy of Form D.

Form D. Directions for isolation, feeding and watering of suspected animals, and for prevention of contagion, time limit and penalties for breach of regulations. Also detachable portion for owner to fill up when requesting an extension of time limit, and space for local authority to reply to such request, giving date of extension if granted.

5. *Feeding of Reactors etc.* When in the opinion of the veterinary officer it is practicable and desirable, reactors shall be fattened for slaughter. In such case the owner shall be at once notified in writing (on the space provided for that purpose in Form D.) of the limit of

time such animal shall be allowed to remain on his premises for purposes of fattening; the owner may within 14 days of the expiration of such time limit request, in writing, the sanction of the local authority for an extension of such time limit, giving the reason for so doing.

6. *Slaughter of Reactors.* The owner of a reactor shall give the local authority seven clear days notice in writing (Form E.) of his intention to slaughter the same; such slaughter shall take place in a public abattoir, or other slaughter house approved by the authority, in the presence of the veterinary officer or some person whom he may depute. The butcher or other person dressing the carcass shall not flay or remove the ear containing the ear mark, nor remove any other identification mark affixed by the local authority.

On the day following the slaughter the veterinary officer shall examine the carcass and take possession of the ear and earmark (or any other mark affixed by the local authority) and shall pass or condemn the carcass wholly or in part as fit or otherwise for human food. That portion which is passed shall be weighed in the presence of the veterinary officer and valued by him. The weight and description of the condemned portion (to which the veterinary officer shall affix an identification mark) shall also be taken, and its *pro rata* value by weight shall also be noted on Form E.

Form E. Formal notice of intention to slaughter, with number and identification mark of reactor; proposed date of slaughter, abattoir or slaughterhouse selected, and time of slaughter. Dated and signed by owner.

Form F. Number and identification mark of reactor, time, place, and date of slaughter, total weight of dressed carcass in pounds (or stones), weight of portions passed and portions condemned in pounds (or stones), value per pound (or stone); total value of passed and condemned portions, report and remarks. Signed and dated by the veterinary officer.

7. *Scale of Compensation.* On receipt of the ear and earmarks (or other mark, tattoo, or brand as the local authority may determine) together with Form F. signed by the veterinary officer, the local authority shall within fourteen days pay compensation to the owner according to the following scale:—

When less than one quarter is condemned, a sum not exceeding £2.

When one quarter in condemned, two-thirds of the value of the portion condemned.

When two quarters are condemned, two-thirds of the value of the portion condemned.

When three quarters are condemned, one-half of the value of the portion condemned.

When the whole carcass is condemned, one-half of the value of the portion condemned.

In special cases approved by the veterinary officer the local authority may also give (in cases where two or more quarters are condemned) a bounty not exceeding one-half the value of the portion condemned.

8. *Immediate Slaughter with Bonus.* In cases where the owner of a reactor is anxious that such reactor should be slaughtered as soon as possible, the local authority may, on the recommendation of the veterinary officer, allow a compensation bonus over and above the scale laid down in paragraph 7. Such bonus shall in no case exceed the sum of £3.

9. *Valuation of Carcass.* In all cases the value of a carcass of a reactor shall be considered to be its value per pound (or stone) multiplied by its weight in pounds (or stones) respectively; the value of the hide and offal shall not be taken into consideration by the local authority but shall be solely at the disposal of the owner. No animal shall be considered of greater value than £20.

10. *Compensation for apparently healthy cattle condemned post-mortem.* Unmarked cattle, apparently healthy and bought *bona fide* for purposes of slaughter at a fair market price, and condemned after slaughter as unfit for human food, wholly or in part, shall be compensated for by the local authority according to scale, viz., two-thirds the total value of the portion condemned. The value of the condemned portion to be estimated as per paragraph 7.

11. *No compensation for worthless animals.* Compensation shall not be paid (except at the option of the local authority on the recommendation of the veterinary officer) for the following animals:

For animals over one but under two years old of less value than £6.

For animals over two or under three years old of less value than £9.

For animals apparently in the advanced stages of tuberculosis.

For calves under twelve months of age.

12. *Branding of aged cattle.* All cattle over seven years of age (or apparently over such age, or which have had more than five calves) shall be marked with an earmark in the left ear (or other such mark as the local authority shall determine) and shall not be moved from the premises whereon they are confined at the time of marking. The owner of any such cattle shall, at his own expense, in the month of May in each year, forward a copy of Form C., duly completed and signed by an approved veterinary surgeon, certifying the same to be free from tuberculosis. Any such animal failing to satisfy the veterinary officer as to its freedom from tuberculosis, shall, on the local authority giving the owner fourteen clear days notice in writing (Form G.) be slaughtered, and the owner shall have no claim to compensation.

Form G. Formal notice to owner to slaughter animal on or before certain time or date, with penalty for non-observance.

13. *Mammary Tuberculosis.*—All cattle suffering from or affected with tuberculosis of the mammary organs shall be marked in a distinctive manner as required by the veterinary officer to the local authority. Such animals shall be isolated and dealt with under Form D. and fattened for slaughter if practicable within a time limit. In such cases the local authority shall not be liable for compensation except when the carcass is condemned wholly or in part as per paragraph 6. Should the owner consent to immediate slaughter the local authority may, on the recommendation of the veterinary officer, grant the owner a compensation bonus not exceeding the sum of £3 (the milk from such cows is dealt with under the Diseases Order 1885.)

14. *Alteration of time limit, etc.* The time during which an affected animal may be allowed to remain on the owner's premises may be altered or withdrawn at the option of the local authority on giving seven clear days notice in writing to the owner (Form H.) The local authority may enforce slaughter within 48 hours on payment of the maximum compensation allowance, together with a sum not less than £1, nor more than £3. Except in such cases the time limit shall not be less than seven days.

Form H. Formal notice of intention to alter date, giving number and identification marks of reactor and original and amended dates of time limit.

15. *Reactors developing acute tuberculosis.* Reactors which are being fattened for slaughter (under paragraph 5), and which develop acute tuberculosis shall be dealt with at the discretion of the local authority under paragraph 14.

16. *Slaughter must be within time limit.* Compensation for reactors branded by the local authority shall

only be paid when such reactors are slaughtered within the time limit, or certified by the Abattoir Veterinary Inspector or his deputy upon the expiration of the time limit. The local authority may order the slaughter within 48 hours of the reactor, and reserve the right to grant or withhold compensation wholly or in part.

17. *Removal of reactors.* No reactor or clinically affected animal shall be removed, dead or alive, from the premises at which it was earmarked or noted to be clinically affected without the consent in writing of the veterinary officer to the local authority (Form I.), and no clinically affected cattle shall be sold or exposed for sale within the selected area.

Form I. Permission to remove reactor (or carcass) from and to specified places on particular date for certain limit of time giving number and identification marks of reactor (or carcass). Signed and dated by the veterinary officer.

18. *Restriction re use of tuberculin.* No person other than a M.R.C.V.S., licensed medical practitioner, or other authorised person shall prepare or keep tuberculin or other allied products in his possession; no person other than a M.R.C.V.S. shall apply the tuberculin test to cattle and no person shall inject or cause to be injected any tuberculin or allied product into any cattle without the consent in writing of the local authority. (Form J.)

Form J. Permission to use tuberculin on specified date for specified number of cattle on certain premises with compulsory notification of reactors. Signed and dated by veterinary officer.

19. *Identification marks not to be defaced.* No person shall remove, alter, obliterate, change or otherwise deface any earmark or other mark, brand or tattoo which the local authority shall affix or imprint, and no person shall remove, sell, expose for sale or be in possession of any animal in which such identification marks have been removed, obliterated or defaced.

20. *Registration of bulls.* All bulls kept for stock purposes or exhibition shall be registered by the local authority: the owner shall annually, at his own expense, in the month of May cause the animal to be examined by an approved veterinary surgeon, and certified to be free from tuberculosis.

Form C. Any animal failing to satisfy the veterinary officer of the local authority as to freedom from tuberculosis shall be dealt with under paragraphs 1, 3, 4, and 5.

21. *Breach regulations.* Any owner of cattle contravening any of these or other regulations laid down for the eradication of tuberculosis shall be guilty of a misdemeanour and shall be liable to such a penalty or penalties as are by statute provided: any such breach or contravention of regulations shall (in addition to the Statutory penalty) entail forfeiture to all claims for compensation from the local authority.

22. *Power of entry of veterinary officer.* The veterinary officer to the local authority shall have power to enter any premises, buildings, fields, enclosures, or any other place in which cattle are housed or kept in which he suspects cattle to be housed or kept, at all reasonable hours on any day including Sunday: any person obstructing such inspector or preventing or attempting to prevent his entry or wilfully obstructing him in the performance of his duties shall be guilty of a misdemeanour, and may on conviction be punished according to the provision of the Statute. Any such person obstructing an inspector and being an owner of a reactor or suspect shall also, if convicted for obstructing, forfeit all claim for compensation in respect to such reactors or suspects.

23. *Power of seizure of apparently clinically affected cattle.* The inspector to the local authority shall have power to seize and impound any cattle which are in his

opinion affected with tuberculosis and to deal with such according to the provision of the Statute.

I trust that the long recital of forms, etc., which I have just enumerated has not conjured up visions of Form 4, Insurance stamps, or other objects sacred to the politician; and I venture to think they are not so formidable as at first appears. No finality of perfection is claimed for them. I give them merely as suggestions for collecting and systematising data which would, I believe, be useful for reference and for further action, and I believe that some such system applied to various definite portions of counties at once to be fairly practicable.

Already I have provided ample material for discussion and humbly request gentle treatment at your hands, so will now draw the paper to a close with a few observations on the Pure Milk Bill of 1910.

The principal objection to this Bill is the dual control of Local Government Board and the Board of Agriculture and Fisheries. I would greatly prefer that the Bill should keep clear of purely agricultural matters and deal only with milk and dairies, leaving live stock, carcasses, and cowhouses to a Bill of the Board of Agriculture. That is all I shall say with reference to the question of dual inspection as a whole—with the following exceptions.

Clause 2, para. 3, states: "If on any such inspection the Medical Officer of Health or the Veterinary Inspector or surgeon has reason to suspect that any cow in the dairy is suffering from tuberculosis with emaciation or from tuberculosis of the udder or is giving tuberculous milk, etc., etc."

I would suggest that this be divided so that the medical officer's powers be limited to a suspicion of a cow giving tuberculous milk, from his examination of samples of milk from such a dairy; and that the suspicion of cattle suffering from tuberculosis in any form be the duty of the veterinary inspector.

Clause 2, para. 8, provides for the withdrawal of an order on a dairyman if the local authority or their medical officer is satisfied that the milk supply has been changed, etc. One may ask if a certificate from the veterinary inspector that the cattle were changed and free from disease would not be better?

Clause 3, para. 2, lays down restrictions on an owner to prevent him allowing a diseased cow being kept along with cows in milk. Clearly such a regulation should be part of a Contagious Diseases (Animals) Act if tuberculosis is to be a scheduled disease. If it is to be allowed to remain in the Milk Bill the attention of the owner should be here drawn to the necessity of immediate notification.

Clause 5 deserves special mention as it glories in the misleading title of "Appointment of veterinary inspectors" and must be quoted *in extenso*: "The L.G.B. may by order require the Council of any County, Borough, or Urban District to appoint or combine with another such Council in appointing, for the purposes of this Act, one or more properly qualified veterinary inspectors, or to employ for those purposes any inspector or other officer appointed by the Council under the Diseases of Animals Act, 1894."

Two vitally important factors stand out in this Clause: firstly, that rural district councils in whose areas the majority of cattle are kept are not included except through the County Councils, and that urban districts where few cattle are kept must provide an inspector. Secondly, the word *or* and those following allow our old and well tried friend the constable, with his accomplices the plumber and retired butcher, to pursue their machinations in the inspection of live stock under this Bill.

One regrets to say it, but some little knowledge of the ways of humbug, patronage, and officialism makes it appear to me that this clause will very generally be interpreted as follows:—

"In places where no nuisance inspector, retired police sergeant, butcher, or plumber resides, and where the finances of the local authority do not permit of a salary commensurate with the duties of this office, the local authority *may* appoint a veterinary surgeon for the purposes of this Act, where such a person is appointed, his salary shall in no case exceed the sum of £20 per annum, and the appointment shall be determinable by a week's notice in writing on either side."

I may say here that the original clause requires little alteration to make it of much more utility and equity, and I would suggest that it be as follows:—

"The Board of Agriculture and Fisheries *shall* by order require the Council of every county, borough, urban and rural district, to appoint, or combine with another such Council (under the direction of the County Council in the case of urban and rural districts and non-county boroughs) in appointing for the purposes of this Act, one or more properly qualified veterinary inspectors."

And concurrently to issue an Order as to conditions of service, salary, etc., of such officers, on the lines of that regarding medical officers of health as issued by the Local Government Board, and as is foreshadowed in this Bill, Clause 6, Sec. 1, para. 2: "The qualifications, duties, salaries, and tenure of office of veterinary inspectors."

Clause 13 provides that the expenses of local authorities under the Act shall be provided out of various local funds and rates. This is highly objectionable, as a dairying district is thus mulcted to provide pure milk for towns and urban districts which receive the greatest benefits under the Act; the only fair and equitable way is that at least one half the cost should be borne by contributions from the Imperial exchequer.

I apologise for the great length of this paper on a somewhat threadbare subject, but it is one of great importance in spite of its antiquity. I have only been able to touch upon it very lightly with a view to raising a good discussion, as probably few subjects are more controversial and yet of equal importance to the farmer and dairyman.

At the conclusion a very hearty and unanimous vote of thanks was accorded to Mr. Mattinson, moved by Mr. Richardson, seconded by Mr. T. Eaton Jones.

On the motion of Mr. Eaton Jones, it was agreed to have the paper printed and circulated, and fully discussed at the next meeting.

The members subsequently had tea together.

ARNOLD RICHARDSON, Hon. Sec.

SOUTHERN COUNTIES VETERINARY SOCIETY.

A special meeting was held at the Holborn Restaurant London, on Wednesday, December 6th. In the absence, owing to illness, of the President, Mr. W. Hunting, Mr. C. Roberts, of Tunbridge Wells, the senior Vice-President, was voted to the chair, and the following also signed the attendance book: Prof. G. H. Wooldridge, Messrs. A. L. Butters, R. F. Wall, London; A. H. Archer, Southsea; E. Whitley Baker, Wimborne; Walter Burt, jnn., J. H. Lockwood, Harold Leeney, Brighton; W. A. DellaGana, Southampton; C. Pack, Lymington; H. G. Simpson, Hampstead; H. Smith, J. Alex. Todd, Worthing; S. H. Slocock, Hounslow; F. G. Samson, Mitcham.

Visitors: Col. L. J. Blenkinsop, D.S.O. P.V.O. Salisbury; Lieut.-Col. A. P. Blenkinsop; Messrs. H. F. Brookman, Worthing; J. E. Overed, and W. Reekie.

On the proposition of Mr. W. Bart, seconded by Mr. Lockwood, the minutes of the last meeting as published in *The Veterinary Record* were taken as read and confirmed.

The Hon. Sec. announced the receipt of apologies at inability to attend from the following: Dr. J. McI. McCall, Maj.-General Fred Smith, C.B.; Messrs. G. T. Angwin, T. Bolton, R. Burt, W. Caudwell, C. J. Callow, W. A. Collins, W. Coveney, J. B. Dier, J. T. Firr, E. R. Harding, F. Marks, P. Perkins, C. Peirce, W. K. Stuart, C. H. Spurgeon, W. Shipley, R. A. Thrall, F. T. Walder, A. C. Wild, and D. Wyllie.

A letter was read from Miss Hunting acknowledging the resolution of sympathy with her father which the Society had passed at their last meeting at Aldershot. The Hon. Sec. mentioned that he had received a telegram from Mr. Hunting asking him to call that morning; that he had called as desired and found their President had been in bed since Sunday, and was not in a fit state to turn out. Colonel Blenkinsop had kindly sent him a typed copy of the paper he was going to read at that meeting, and when he (Mr. Todd) called on him that morning, Mr. Hunting handed him some notes to be read to them with a view to opening the discussion. Mr. Hunting wished him to express his very great regret that he could not be present with them.

Mr. W. Burt moved a resolution of sympathy with their President, Mr. Archer seconded, and the matter was remitted to the Secretary.

A letter was read from Mr. R. Porch, of Bristol, definitely tendering his resignation, as he was no longer able to attend any of the meetings.

The CHAIRMAN explained that Mr. Porch had been written to on two or three occasions urging him to continue his membership, and he had consented to do so, but he took it that this was really final, and that they had no alternative but to accept the resignation with regret.

Mr. BURT proposed that this be done, and Mr. Lockwood having seconded, it was unanimously agreed to.

The circular letter was read from the Association of Veterinary Officers of Health, asking support to a resolution which they had passed at their meeting at Edinburgh on the 13th October last, calling on the Government to immediately take steps for the control of tuberculosis among animals.

The CHAIRMAN took it that there would be no objection to their giving the support asked for by passing a similar resolution, and if this was so he would ask them to signify their assent in the usual way.—Agreed.

A communication from Prof. A. Gofton, Hon. Sec. of Committee, had reference to the scheme for the amalgamation of veterinary societies, and

The CHAIRMAN: Seeing they had already approved of the principle, he took it that all that was required of them now was to intimate their intention of becoming affiliated in accordance with the amended rules.

Mr. BURT asked whether they were justified in taking this course on a communication submitted with the other correspondence, but it was pointed out that special notice had been given of the matter on the agenda, and the meeting then agreed to the Chairman's suggestion.

A letter inviting the Society to appoint delegates to next year's Congress of the Royal Sanitary Institute.

The CHAIRMAN said he understood from the Secretary that there would be plenty of time to deal with this at their next meeting, but if they liked to settle it that day there was no reason why they should not do so.

Mr. BURT asked who were the delegates last year.

The Hon. Sec.: We did not appoint anyone to represent us officially but merely sent a subscription.

Mr. BURT proposed that they adopt the same course on the present occasion; that they subscribe, but do not send any delegate. The expense of sending a delegate would, he took it, be four or five guineas, and seeing that they could get the whole of the papers and the reports of the discussions afterwards, he did not see

that there was much advantage in being personally represented.

Mr. DELLA GANA begged to differ. He thought it would be a most wholesome thing for their Society to be represented at these meetings. He once attended a meeting of a similar nature at Cardiff, and he had reason to believe it did some good. They were becoming influential in a small way as a Society, and he thought they should send a delegate and subscribe towards his expenses.

Mr. BURT: What is the good?

Mr. DELLA GANA: First of all there is an advantage in being represented and being able to take part in the discussions because in that way you get attention. We meet here in our own little shell and nobody knows of us, but if we are represented at these Congresses people get to know of our existence.

Mr. H. SMITH and Mr. Butters also agreed, the latter pointing out that it frequently happened they were able to correct statements made by other speakers in some of the other sections.

Mr. BURT: If the delegates are going to attend the meetings of all the other sections well and good.

The CHAIRMAN: Will you propose, Mr. Della Gana, that we send delegates?

Mr. DELLA GANA: Yes, I will do so with pleasure.

Mr. SMITH seconded, and the same was then put and carried, Mr. Butters pointing out that the actual appointment of a delegate could be left over till the next meeting.

A letter from Mr. W. Shipley, of Great Yarmouth, inviting support for the Victoria Veterinary Benevolent Fund.

Mr. W. BURT, in supporting this appeal, took it that they all knew this Society was doing a lot of good, and personally he thought it was a good way of giving charity, because there was an old saying that charity began at home, and their own profession ought to be nearest to them. He had been on the Committee now for some years, and one could hardly credit the number of widows and other dependents of deceased veterinary surgeons who were left absolutely penniless. The Society could not relieve nearly so many of these as they would like, owing to the lack of means, and they were anxious to get an increased number of subscriptions so that they might have a larger annual to carry on their good work. In a good many charities a lot of the money went in working expenses, but this was not the case here, for there were no working expenses except those of postage and a little printing, and if they could afford to give 10s. a year it would be much better to give it to their own professional brethren than to outsiders.

The CHAIRMAN: It appears to me that this is a private matter for the members individually, but I am sure we hope some of you will become annual subscribers.

Mr. BURT: Better say all.

The CHAIRMAN: Well it would be nice if we were all to do so.

NEW MEMBERS.

Mr. W. W. HENDERSON, of Haslemere, and Mr. T. A. B. COCKSLEDGE, of Emsworth, who had been formally proposed and seconded at the last meeting as members, were unanimously elected.

Brighton, proposed by Mr. Burt, and seconded by Mr. Smith; and Salisbury, proposed by Mr. Della Gana, and seconded by Mr. Pack, were suggested for the next meeting in March, and on a show of hands being taken Brighton was selected by six votes to five.

"THE POSSIBILITY OF PREVENTING THE PRESENT
CONFLICT OF VETERINARY EVIDENCE IN POLICE
COURT CASES."

By Colonel L. J. BLENKINSOP, D.S.O., A.V.S.,
(P.V.O. Southern Command.)

Gentlemen, - I must thank you for the honour you have done me in asking me to address your Society. I wish that the task was in more worthy hands, as I am afraid that my experience in Police Courts is distinctly limited, as a witness, expert, or otherwise, and I have not had the doubtful privilege of appearing before a Court of Justice in an even less enviable position. However, I come here to learn, not to teach, and I hope my remarks may give rise to a profitable discussion which will lead to definite conclusions.

I venture to put before you some very crude remarks on the subject of veterinary evidence, for I feel convinced that it is a question of the highest importance to our profession that the expert testimony of its members should be beyond reproach. The general estimation in which veterinary surgeons are held by the public depends very much on the impression made by them when called as witnesses in the Law Courts. It is as well, therefore, that they should conduct themselves on these occasions in such a manner as to earn the respect of those who hear them, as well as the many more who will read the report of their evidence in the newspapers.

As expert witnesses we have the great privilege of being able to express our opinions on any point before the Court which may come within the range of our special professional knowledge, whereas in the case of ordinary witnesses such opinions and beliefs are not admissible as evidence. In the latter case it is for the witness to state the particular facts within his knowledge and for the jury to draw their own conclusions regarding the accuracy of his statements and their bearing on the case at issue.

I am not proposing to give you an amateur disquisition on evidence, but I wish to put before you certain points which may help to obviate the conflicting opinions which are now unfortunately given in evidence on veterinary questions by members of our profession. So long as medicine is not an exact science opinions must differ in many cases as to the interpretation of facts. People may even fail to describe facts accurately. It is almost a commonplace that persons seeing an incident and having the same facilities for observation, will describe what they have seen, not only in different language, but also with more or less marked discrepancy as to details of the event. An experiment made by a professor of medical jurisprudence in Germany illustrates this point to perfection. The professor caused a man to come into his lecture theatre armed with a revolver, aim the weapon at him, fire a blank cartridge, and leave the room. The class was then told to write a detailed account of what they had seen. The reports were found to differ widely, even in the essential details. If one is investigating a case and two or more witnesses give almost identical evidence, and especially if they use several identical phrases, one is at once suspicious of collusion.

Again, we cannot get away from the fact that some people have vivid imaginations, and that they are apt to confuse incidents which they have observed with the creations of their minds, or to enlarge indefinitely on a small substratum of fact—and to do so in all innocence. A good example of this tendency is to be found in "Martin Chuzzlewit": "The chambermaid in the back ground made out as much of the letter as she could and invented the rest, believing it all from that time forth as a positive piece of evidence."

As professional men we cannot be too careful in sifting out our opinions before venturing to express them in the Law Court. Careful notes made at the time are the

best means of obtaining premisses from which to draw conclusions. Mr. Gladstone said "The best memory is a record made at the time," but in making such a record it is very necessary to be extremely careful in the wording of it. It is surprising how few Englishmen who have the ordinary public school education appreciate the meaning of the words of their language, and who are therefore unable to express ideas with accuracy and lucidity. I would suggest that the careful recording of clinical cases by students would be of the greatest assistance to them in their future career, especially if these clinical notes were corrected and criticised by the teachers at the time, or shortly after they were made. I believe this practice would assist men in learning to make accurate and scientific deductions from clinical facts, and would also teach them the true significance of words. Jenner said "More mistakes, far more, are made by not looking than by not knowing," and it is this particular faculty of "looking"—accurate detailed observation—which goes far to effect the evolution of the successful practitioner.

It should not be forgotten when giving evidence "that successful barristers are men whose training enables them to pick up very quickly a certain amount of knowledge of any subject, and it will not do to rely upon their ignorance." If a veterinary witness really understands his case he need not be afraid of any barrister, so long as he keeps his head and does not get flurried.

"Expert witnesses are allowed to refresh their memories in court by references to treatises which they are in the habit of consulting. But as such treatises do not thus become themselves evidence, a witness is not entitled to read aloud from them but must embody the result in his own words and give evidence on the matter on his own responsibility." Similarly, a witness under examination may refresh his memory by references to notes made by himself at the time of, or soon after, the transaction on which he is being questioned. He may also refer to any writing made by any other person and read by the witness at the time, if, when he read it, he knew it to be correct. This reference in court to notes and treatises will assist witnesses to be accurate, but it should be borne in mind that any such writing must be shown to the opposite side if it is required, and that it is open to them to cross-examine the witness on the documents to which he has referred.

In giving evidence the veterinary surgeon should express himself in the least technical language possible, and he should also remember that stable and farm expressions are often even more difficult for the court to understand than accurate scientific terms. It is to the use of loose unscientific horsemen's terms that I attribute a great deal of the unsatisfactory evidence which is frequently given, and I submit that if a nomenclature of animal diseases, based on scientific teaching, was drawn up by authority of the Royal College of Veterinary Surgeons, it would greatly assist towards the use of similar terms for definite pathological conditions by veterinary surgeons giving expert evidence in law courts. At the same time I do not for a moment advocate the use of the technical terms. We all know the story of the doctor who, when giving evidence in an assault case, described the injury received by the plaintiff as "a contusion of the orbit, accompanied by subcutaneous ecchymosis." "If you mean a black eye," said the judge, "why not say so, and make yourself more intelligible to the jury." No, in the law courts one should use English undefiled by horsey slang or scientific jargon.

With respect to the evidence which a veterinary surgeon decides to give, Saundby in his Medical Ethics says, "Let him imagine that he is going to address a medical society, and say nothing he would not feel sure would meet with the approval of his medical brethren, if in doubt about any pathological or toxicological point he should admit the doubt." This admission is far more

dignified and will frequently give more weight to evidence than dogmatic statements on debatable subjects. Although to "bluff" the court, if I may use the expression, is derogatory—unfortunately such behaviour is not unknown, and instances have occurred where veterinary witnesses have gone so far as to back their evidence by offering to pay certain sums of money if it is proved that what they are stating is incorrect.

The exaggerated and emphatic terms used by witnesses frequently make one doubt whether they can fully appreciate the true significance of the words they employ. Conclusions should be moderately stated and due weight given to any facts which tell against the client in whose interest one has been called, as the court is more liable to be guided by a witness who is evidently fair than by one who shows bias.

A veterinary witness should under all circumstances be eminently fair, and he should maintain the independence of his opinions—he should not allow himself to become an advocate for one party or the other. When approached regarding the case, he should give his candid opinion and absolutely refuse to have his opinions suggested to him. If he is called as a witness on these terms, well and good; but, if after having been consulted as an expert on one side, he is informed that he will not be called, he should refuse to give evidence for the other party should he be approached by him, as he could not well avoid making use of information which he had acquired when he stood in a trusted position to those who first consulted him.

Great care should be taken when giving evidence in cases where another veterinary practitioner's conduct or skill may be called in question, not to display any bias or professional rivalry. In examining patients or making post mortem examinations under such circumstances, it is our duty to give the professional brother who may be implicated the opportunity of being present, and to allow him, should he desire it, to be accompanied by a pathological expert. In giving evidence the witness should tell the truth without straining the facts for or against his brother practitioner but, if any doubt exists, he should give him the benefit of it.

Avoid writing unofficial opinions—remember what Stanley Atkinson said, "Do right and don't write—then fear nothing."

In consultation, be open and straightforward with your professional brethren. I am firmly convinced that more ill-feeling and bad-fellowship has resulted in our profession from reticence and shifty behaviour of practitioners in consultation, than from any other cause. I would ask one and all to remember that the respect of their professional brethren is of far more real value than any petty fees or short-lived popularity obtained from laymen whom they may have endeavoured to help at the expense of a colleague. Think twice before adversely criticising the opinion, diagnosis or treatment of another veterinary practitioner, remembering that clinical symptoms and signs may alter from day to day, thus explaining apparent discrepancy. Stringent criticism is more often the result of narrow ignorance than wide knowledge. One of the greatest teachers of surgery of his day (Mr. Christopher Heath) used to say, "The man who has seen the greatest number of fractures will be the last to criticise the results obtained by other surgeons." We should recognise ourselves to be integral part of our profession, and then we shall feel that any disparagement of our brother practitioners before the public reflects quite as much upon our status as upon that of a colleague we may be inclined to criticise adversely.

There is a homely saying that it is a dirty bird who fouls his own nest. If we belittle our professional brethren's opinions we are shaking the public confidence in veterinary science, and in so doing we are lowering our own standing. I would ask of you that you should not too readily jump to the conclusion that one or other

member of the profession is wilfully giving false evidence because there is a divergency between their statements—at the same time one cannot but recognise that unfortunately there are cases in which veterinary surgeons make statements in the Law Courts which are flagrantly at variance with obvious facts, and with the incontrovertible dicta of science. It is only in these cases we can hope definitely to prevent the present conflict of veterinary evidence in the Courts. There is no excuse for expert evidence being given on these lines. An expert may refuse to give evidence on expert opinion, although if called to speak as to facts, he cannot, of course, refuse to testify. He is not, however, required to depose to facts with an expression of such certainty as to imply that all doubt is excluded from his mind. It should be remembered that it has been ruled that a man who falsely swears that he "thinks or believes" is equally liable to conviction for perjury as is the man who swears positively to that which he knows to be untrue.

Discrepancy in veterinary evidence could be avoided by a consultation, and such consultations should be always welcomed or even suggested.

Disciplinary action should be taken by the Royal College of Veterinary Surgeons in all cases of flagrantly unsatisfactory veterinary evidence, and, having set our house in order, we should jealously guard it against disparaging remarks and insinuations—no matter by whom they may be uttered. At present we appear to be asleep, and, sad to say, our professional veracity is fast becoming a byword in the Law Courts.

Having given expression to these few scattered thoughts on this most important subject, I shall now place the matter in the hands of the members of the Society for discussion. I hope to learn much from your President, Mr. Hunting, whose evidence in the Law Courts always carries weight and conviction, and I hope that several other gentlemen present will give us the benefit of hearing their views.

The subject before us has a wide bearing, influencing as it does our credit as a profession and our individual position in the eyes of the public in general, and of our clients in particular.

DISCUSSION.

The notes made by the President (Mr. W. Hunting) as an opening contribution to the discussion, and to which reference had been made earlier, were read by Mr. Todd as follows:

"Colonel Blenkinsop has given us a good opening for our discussion. He has taken no side, but warned us all of the pits and traps which may waylay us in the courts. The Colonel's advice is good—"know what you are talking about and tell the truth, and you need not fear facing counsel."

But even if we are all knowledgeable and honest men, I think we shall have differences of opinion expressed in the witness box. These differences may not be very wide apart, but they are carefully driven asunder as far as possible by able counsel.

Everyone distinguishes evidence as to fact from evidence on opinion, but even facts are not always clear in dealing with changes in an animal body. Mr. Plowden is reported to have complained that "one veterinary surgeon said the horse was lame on three legs, another said it was lame on two legs, and a third denied that it was lame at all." Unless some of these men were misusing words and drawing mental distinctions between stiffness and lameness, it is not easy to answer Mr. Plowden's complaint. There are in all callings some black sheep, and some of our experts are simply liars. There ought not to be differences of opinion as to whether or no a horse is lame, but there may be vast difference of opinion as to the cause, seat, and nature of the lameness.

A recently reported law case turned upon the question—whether the mare had ringbone. Some half-dozen good men appeared on each side, and one half-dozen swore there was no ringbone, whilst the other half-dozen swore there was. I carefully read the evidence as reported and failed to discover what pathological condition was being referred to—was it a mere periostitis on the phalangeal bones, or a true articular disease surrounded by a growth of bone—a true ringbone. It seemed to me possible to reconcile the diverse opinions by supposing that there was no real ringbone but a use of the word as meaning—any enlargement about the pastern.

But this case is unique for something more than a difference of opinion. The report states that more than one professional witness expressed the opinion that the "condition he found could not be overlooked by any qualified practitioner." Feeling quite uncertain as to what the pathological lesion was at Dumfries, I should like to say that unless a ringbone is developed there are cases in which any two men may disagree and yet know their business.

I cannot help thinking that a good deal of apparently contradictory evidence would cease at once if we all agreed not to use the expression "false ringbone," and to confine the term "ringbone" to a state in which articular disease existed.

Reports of law cases show that veterinary witnesses have as much trouble with hocks as they do with feet. Whether a horse has spavin or only coarse hocks is an old controversy, but one in which age does not make it more venerable. The question is chiefly one of definition, but there are cases so on the border line that the very ablest man may be deceived.

Again, mistakes may be made about curb. A little bony enlargement on the outside of the hock may give to the eye all the appearance of curb, and require careful manipulation of the ligament to remove the first impression. In a case of this kind perhaps the first impression is mentioned—some weeks elapse, an action commences, and the V.S. delivers his proof to a lawyer. After that it is not easy to run back, and our time in the witness box is spent in uncomfortable fencing or—worse.

One would expect that evidence in the High Courts would be less objectionable than in the Police Courts. The High Court case takes longer to prepare and come on for hearing. The witnesses' evidence is taken by the lawyer's clerk, who suggests an adverb when you don't want to be too positive, and who somehow has embued your evidence with his own notion of the case by the time a final proof reaches you. Then counsel takes you quite as far as the proof warrants, and opposing counsel lays in wait for any exaggerations or omissions.

Now in Police Courts there is less time for carefully prepared proofs of evidence, and consequently for the elaboration of theories and the squaring of difficulties. If men of the same calibre appeared at Police Courts as at the High Court I think the Court of first instance would often obtain the greatest help to justice from expert evidence.

After all, the suspicions thrown upon our expert evidence is more due to the ignorance of the suspects than the wrongs of the experts. Our evidence is chiefly a matter of opinion, and some allowance must be made for differences of opinion. If it were matter of fact it would be very different.

A witness may be asked the length of a stick, and his opinion may be six inches wrong.

Our expert may be asked a question which turns upon the sensation to his finger of some change represented by a small fraction of an inch.

Is it any wonder men differ on such points?

Mr. W. BURT remarked that it seemed to him that the great difference of opinion which was the cause of the profession being held up to ridicule occurred more in the police courts and not so much in the High Courts. In those cases where a horse was stopped by one of the Society for the Prevention of Cruelty to Animals' men, or by the police, the horse generally was lame, and yet in a large number of these cases they would find veterinary surgeons willing to come into court and say that the animal was not lame. The question as to whether a horse was lame was one on which there could be or should be no two opinions. He granted that they must allow a certain amount of latitude for difference of opinion as to the extent or cause of the lameness, but there ought not to be this great divergence of opinion as to whether the horse was lame or not. Mr. Hunting in his notes had used the word "stiffness," but he contended that stiffness was a degree of lameness, not absence of lameness. He happened to be the police veterinary surgeon for Brighton, and they got one or two of these cases perhaps in a month, but he could only say this, that if a man was to say an animal was not lame when as a fact it was distinctly lame he should never speak to that man again. After all he did not believe horses were stopped because the policeman or the Society's man fancied they were lame; they might accentuate the lameness in their mind, but as a general rule they did not stop a horse unless it actually was lame. They might do so occasionally, but it was very unlikely, and when both the policeman and the veterinary surgeon agreed, he said for another man to get up in the witness box and say the animal was not lame was disgraceful. And yet this frequently happened, especially in the London Police Courts. He did not know whether they were a different class of men in London or not, but when they did this sort of thing he should put them down as what Mr. Hunting said, liars, pure and simple. It was these cases that were so detrimental to their dignity as a profession, not the cases in the High Courts, because the cases that engaged the attention of the High Courts were cases for the most part for expert evidence. He had in his mind a case in which there was what they were pleased to call mechanical lameness. There was a lameness, but the animal was not suffering any pain. He believed it was eventually boiled down to this, that there was only one form of mechanical lameness, arising from the shortening of the back tendons of the hind legs, but he contended that if an animal with short tendons was to go lame it must be suffering pain. After a time there must be perhaps first discomfort but eventually pain; and a horse should not be subjected to any pain when working. To go back to the subject of the paper, however, for a veterinary surgeon to say a horse was fit for work when it was lame was a thing that ought to be punished by the College.

Prof. WOOLDRIDGE rather thought Mr. Burt had put up his views for them to shoot at, because he could not think that he really meant to take such an extreme line. To suggest that no horse that was affected with any degree of lameness was fit for work was a view he thought very few of them would hold. He considered there were plenty of horses with a slight degree of lameness that were perfectly fit for work, and which should be worked without a man who expressed an opinion to that effect being in danger of getting crossed off the rolls. Then with regard to the question of mechanical lameness, here, again, he disagreed strongly with Mr. Burt. If a horse was suffering pain from any lameness that pain must be conveyed by the nervous system, and if there was no nerve supply to the particular seat of the lameness then there could be no pain. It was quite possible for a horse to be lame in a certain place from mechanical causes. If he was unnerved he would remain just as lame as before, proving that the lameness was mechanical, and being strong presumptive evidence

that the horse was not suffering pain before unnerving. Surely one was perfectly justified in saying that such a horse could be worked without cruelty.

Mr. BURT: After neurectomy has been performed, yes.

Prof. WOOLDRIDGE: But these are cases of mechanical lameness which were included in the special terms to which you referred. Continuing, Professor Wooldridge said he should like to thank Colonel Blenkinsop for the very able way in which he had brought this paper before them. It was a paper which they could read at their leisure afterwards, and which would give them food for a lot of thought: and he agreed with him, and also with Mr. Hunting, that one of the greatest things they had to contend for was a recognised nomenclature which could be utilised by veterinary surgeons generally. There was the distinction between false and true ringbone, for instance. It was the use of such terms as these that gave rise to so much of the differences of opinion of which they had heard. Then with regard to the use of the powers of observation they must remember that these powers were not equally developed in all people alike. They could get a very eloquent example of that any day at the College by watching the students examining a horse's legs. What appeared to some to be a very clear and obvious irregularity of the surface would be not be felt or appreciated by others: and he thought very often that the difference of opinion expressed was due to this difference in the ability to observe rather than to any wanton prevarication on the part of the persons expressing those views. But this would not apply to those cases which were so constantly coming before the courts where there was undoubtedly gross exaggeration. These were the cases they had got to fight against, and he thought it was to these that Col. Blenkinsop wanted to draw attention. Only recently a case came before one of the London Police Courts in which the veterinary surgeon on behalf of the police gave evidence that the horse was suffering from lameness, that it was cruel torture to work it, and in fact that he had never met with a more flagrant case of cruelty, while the veterinary surgeon on the other side said the horse was merely stiff and not suffering any pain, and that it was fit to work. The Magistrate said it was impossible for him to come to a decision in the face of the evidence of these two expert witnesses, and he adjourned the case. The police sent up to the College and an impartial opinion was asked for on behalf of the magistrate. He had the case in hand and when he went to give evidence at the adjourned hearing he had no idea of what had been said by either of the two men previously, but he gave his evidence as he thought perfectly just, and after he had finished the magistrate called for the evidence given by the two men at the previous hearing to be read over and then said "I see you agree with both of them." The magistrate had previously been unable to reconcile the apparent conflict of evidence, but his own impartial evidence, taking as he did a middle course, had given him the clue to reconciliation. With regard to another suggestion made by Mr. Burt that the police did not stop a horse because they merely *thought* it was lame, but that they were always *sure*, he did not think he could quite agree with that, because he had seen horses stopped in London which had certainly not been lame. They had been old horses and had not exactly the same freedom of action that a younger animal would have, but they had not been lame. But the police had stopped them, and the man in charge had been summoned afterwards for subjecting the animal to cruel torture. This was how the summonses were usually worded, and these were the words he objected to, because there might not be cruel torture, and the phrase conveyed such a lot to a magistrate. Nobody objected more than he did to cruelty to horses by working them in an unfit condition, but at the same time he thought the police in excess of their

zeal and the Society's inspectors, not merely occasionally but frequently, allowed their enthusiasm to override their judgment.

Mr. BURT remarked that he had said that no horse that was lame was fit to work, and he still adhered to that. Prof. Wooldridge rather suggested that there were horses lame that were fit for work, but he must entirely disagree with him there. To speak of lameness after neurectomy was simply playing with words. What he had referred to had been mechanical lameness before neurectomy. With regard to the cases in which horses were stopped by the police, what he had said was this, that if the policeman who stopped the horse said it was lame, and the veterinary surgeon who was called in agreed that it was lame, no man ought to get up and say it was not lame. He saw a good many horses that were stopped by the police in Brighton, and if there was no cruelty he told the police so, and the case did not go any further.

Mr. H. G. SIMPSON remarked that he should like to say a few words as a visitor, although he confessed he did so with some little diffidence after what had fallen from Mr. Burt. He was unfortunately in the position of being a London veterinary surgeon—(laughter)—although he was in rather a happier position than the average London practitioner, inasmuch as his duties were confined to one firm. Speaking on this very wide question he should like to say first how much indebted they were to Colonel Blenkinsop for bringing such an important matter forward, and to his mind it was an important matter, because they read in the papers morning after morning of cases in the police courts in which they had this great divergence of opinion. His own experience of the police and the Society's inspectors had been in the majority of cases to find that they were very fair, but there were times when a policeman who was not very busy on his beat and wanted something else to do, would stop a horse practically for the fun of the thing; and when this was done that was the horse that would get them into trouble, because the policeman had got to back up his evidence, and at the present time he was sorry to say he seemed to have very little difficulty in finding veterinary surgeons who would back up his evidence. In fact some of them would go a little further and pile their own evidence on top. In London it was the practice to take the cases direct into court if the magistrate happened to be sitting, and the result probably was that before the owner had time to get down to the court the case had been heard and the man convicted. He had a case on one occasion in which a horse had been stopped for a sore shoulder, and before he had time to get down to the court and see the animal the case had been disposed of. In this particular case the veterinary surgeon who was called in for the prosecution not only gave his evidence in an exaggerated sort of way, but in addition he said the horse was incurably lame and not fit to be worked in the streets of London. He could only say his own powers of observation might not have been very penetrating, but he did not consider there was any lameness about the horse. It never had been lame, and to his knowledge it had been working in the streets of London practically ever since the shoulder got all right again. And this was only one case of many. While on this question of veterinary evidence he would also like to say a word on the question of wounds. A case came into court and the evidence was that the horse had a sore shoulder. They did not dispute that, but they very often had the exaggerated evidence that the collar was stained with blood and matter. These terms suggested that the wound was a very old standing one, because they did not get matter formed in a recent wound, and he very much questioned whether any veterinary surgeon could go into court after seeing a case for the first time and absolutely swear that it was blood and matter that was adhering

to the collar. But the words blood and matter conveyed to the magistrate that it was a serious case, and he would deal with it accordingly. He had no grudge against veterinary surgeons taking up these cases, because they all had their living to get, but they could not get away from the fact that it was to their interest to back up the cases put in their hands by the police, and that there was consequently a temptation to them to allow their interests to outrun their discretion. The same thing might also be said to some extent of those who appeared for the defence. They were called in by the client to get the man off, and he was afraid that sometimes it was not so much a question of giving absolutely fair evidence as of giving evidence that would assist in getting the client off. To return to the paper, he should like to see it circulated and for them to have some sort of round table conference and see if they could not deal with this matter. If they did this he thought they would owe a debt of gratitude to Col. Blenkinsop for the suggestion. He had called attention to the present unsatisfactory state of things, and it was up against the whole of the profession to put their heads together and see what they could do to remedy it.

Mr. BURT wished to explain that he had had no desire to run down the London veterinary surgeons; he was simply twitting them (laughter) although after what he had just heard he was still more glad he was not a police veterinary surgeon in London.

Mr. SIMPSON remarked that he did not wish to suggest for one moment that any veterinary surgeon went into court to perjure himself, but a man had to consider his own interest, and it did not always do to go into court and lose cases.

Mr. WALL thought that in a great many cases the police in London were actuated not so much by humanitarian principles as by what they were going to get out of it, and that was a very regrettable state of affairs. From his own experience of the veterinary evidence in the London police courts, he also believed they would find the magistrate was always inclined to favour the veterinary surgeon who attended the court regularly. There was another point, too, he should like to mention. In cases of cruelty they would naturally expect the policeman to call in the services of the nearest veterinary surgeon, but this was very seldom done. In fact he had known them go miles out of their district and pass several other establishments in order to get their own special veterinary surgeon; and we could only draw our own conclusions from that. In his own district he did not happen to be a favourite with the police and he was rather thankful for it, but he had an instance a little while ago which went to illustrate what he had just said. A donkey met with an accident almost outside his door and that animal was left there from 7 o'clock in the morning until nearly 11 o'clock before the police veterinary surgeon put in an appearance. He wanted to know who was guilty of cruelty there. To revert for a moment to the subject of the paper, he thought the cases where the greatest difference of opinion existed were those in which there were contracted tendons, bent legs, or dropped soles; and in London the veterinary surgeon who was called in for the prosecution usually tried to make his evidence fit in with the case. They could forgive a layman like a policeman, or even a Society man, for stopping a horse that was affected with dropped soles, because they all knew that such animals had a most peculiar gait, but it was different with a veterinary surgeon. He admitted that in a number of these cases there was lameness, but in the majority of them he did not think there was any lameness at all. Again, with regard to horses with bent legs, he had known of people being prosecuted for working horses with bent legs which he certainly should not have regarded as being lame. Mr. Burt had mentioned contracted tendons, and he also thought that in many cases

this was only a mechanical lameness. If the horse was shod with an ordinary low, level shoe it might be subjected to pain, but if the space between the ground and the heel be filled up with a calkin on the shoe he did not believe that horse was in any pain whatever. There was one other thing which he should like to see the attention of the magistrates drawn to, and it was this. A man had his horse stopped and he was charged with cruelty. That horse might be walked anywhere up to a couple of miles to a greenyard and left in the yard all night without the slightest attention beyond what was absolutely necessary, in order "that the animal might look as bad as possible in the morning." He had endeavoured to point this aspect of the matter out to different magistrates whenever he had had the opportunity, and he thought it would be a very good thing if other veterinary surgeons were to do the same. He also thought it would be good if veterinary surgeons were called in rotation for these cases. They would be more likely to get an unbiassed opinion, fairer to the owner and fairer to the police, and he was sure they would not get so many prosecutions.

Mr. DELLA GANA said his own experience had been that the police and the Society invariably employed one and the same man in the courts, and his impression was that these men were paid to do what they were told. Moreover, they always seemed to have the sympathy of the Court with them. The defending veterinary surgeon got very indifferent attention compared with that paid to the man who appeared on the other side, and for this reason he now refused to go into court on any of these cases.

Mr. WALL: Might I make one more remark. Colonel Blenkinsop suggested a consultation before going into court. I may say that I have tried, not once but on a number of times to get into consultation with the veterinary surgeon for the prosecution, and although things have apparently gone smoothly before he gives evidence, I have found that when he gets into the box he is absolutely dead against you.

Mr. SAMSON remarked that they had had a most interesting discussion, and the state of things which had been disclosed wanted a deal of rectifying. There was a great deal in what had been said about the police and their ways. It was only about a fortnight ago that a client of his had a horse stopped within thirty yards of his gateway while drawing an empty cart. The man had been sent out with instructions to see how the horse went, and there was no intention of working it, but the police stopped it, as he had said, within a few yards of the owner's gateway, and the animal was kept standing there for two and a half hours while the officer went for his own veterinary surgeon. It was quite true what their friend had said as to there being certain veterinary surgeons who got their living wholly and solely by running about after the police and the Society's men, and personally he thought it would be a good plan if the certificates which these men were asked to sign were sent up to headquarters direct without either the police or the Society's inspector seeing them at all.

Prof. WOOLDRIDGE pointed out that these certificates were not accepted as evidence.

Mr. SAMSON: I know the certificates are not put in, but they will swear black and white to all that is on the certificate. Continuing, Mr. Samson said there was another thing he objected to. Why should these Society men be allowed to give evidence which a veterinary surgeon only ought to give, and also to cross-examine the veterinary surgeons themselves on their evidence. It seemed to him that these men frequently acted both as lawyer and expert witness, and he was surprised that the magistrates allowed it.

Mr. E. WHITLEY BAKER desired to say how pleased he was to meet Colonel Blenkinsop that day. He had not seen him he believed since their student days, and it

was a great pleasure to meet him again. He also wished to thank him for the able manner in which he had handled a subject of so much interest to every member of the profession. He would like to support what Mr. Della Gana had said as to the sympathy of the Court being with the prosecuting veterinary surgeon, and if he might make a suggestion it was that they should try and approach the proper authorities and see if they could get an opportunity for these cases to be reheard without the excessive cost that usually fell on the individual who made an appeal. He had always endeavoured to treat his professional brethren in a gentlemanly and courteous manner, and he quite agreed with every word that had fallen from Col. Blenkinsop that they should if possible consult with their fellow practitioner before going into court. He thought that if they did that more frequently there would be less trouble, although with human nature what it is, he was afraid these differences of opinion would continue to occur. There was one other thing he should like to say. He did not want it to go forth that they were the only offenders in this respect. The same thing occurred in the medical world, and with all due respect to Mr. Plowden, he should like to say there was far more difference of opinion in the legal profession than ever there was in their own.

Mr. DELLA GANA thought, with reference to Mr. Samson's remarks, that the procedure adopted was this. The veterinary surgeon was asked by the Society's inspector to give a report, which was usually done in the form of a certificate, and that that certificate was then placed before a committee in London, who decided whether or not a prosecution should ensue.

Mr. SAMSON: But the veterinary surgeon does not send it up. The officer does that, and in a great many cases he also decides how it shall be filled up.

Mr. BUTTERS, after expressing his thanks to Colonel Blenkinsop for giving them such an interesting paper, remarked that he merely wished to refer to one point, and that was consultations before going into court. Not so very long ago there was a prosecution for lameness in a London police court in which he had an opportunity of having a consultation with the veterinary surgeon on the other side, and he told him before they separated "If you state what you have stated to me there will be no defence, but if there is any exaggeration I shall have to contest it." When the case came on the veterinary surgeon for the police gave his evidence in what he considered was a very fair way, and a small fine was inflicted without there being any conflict of evidence. He thought this was a point which might be considered more often than it was; in fact he had frequently pointed out to his clients that it was much the cheapest way to simply go and plead guilty, especially if they could be sure there would be no exaggeration on the other side.

Prof. WOOLDRIDGE mentioned that there was an arrangement arrived at in Dublin some time ago which he believed worked very well indeed. The Society there had the same topic under consideration, and it was thrashed out, with the result that the members eventually decided to offer to give their opinion free on any case that might be brought to them in the first instance. Of course if a case afterwards went into court the veterinary surgeon was paid his usual fees, but he had reason to believe that quite a large number of prosecutions were avoided by this means that would otherwise have engaged the attention of the courts. He did not know whether some such system could be adopted elsewhere, neither did he know whether it was still carried on in Dublin.

Mr. PACK said there seemed to him to be two reasons for this conflict of evidence. One was the spirit of antagonism which, he was afraid, possessed all of them more or less, and the other was for want of knowing each

other better; and if there was one thing which tended to remove the latter cause more than another it was such meeting as that, where they met their fellow practitioners, and were able to express their views in a perfectly friendly and amicable manner. So far as he was concerned he was pleased to say the police courts troubled him very little, but the police had sent to him occasionally, and asked his opinion as to whether there should be a prosecution or not, and if he had replied in the negative nothing more had been heard of the matter. With regard to mechanical lameness, there was not the slightest doubt it was possible for there to be mechanical lameness without the horse suffering any pain, and he had had an illustration of this himself only recently. He happened to slip one day and sprained his ankle, with the result that he walked decidedly lame for some time, but he could walk for several hours without feeling any pain.

The CHAIRMAN, in summing up the discussion, expressed the pleasure he had derived from hearing Col. Blenkinsop's paper. There were many points in it of great practical value and which afforded food for reflection. With their permission he would ask Colonel Blenkinsop to reply to the discussion.

Col. BLENKINSOP, in response, remarked that there was very little for him to say, because his paper had been discussed from only one point of view, that of the cruelty cases in the police courts. He thought it was unfortunate that in these cruelty cases so much depended on a conviction, but, nevertheless, when a professional man went into court to give expert evidence and gave evidence which was not true, some disciplinary action should be taken by their College.

He did not think it right that they should allow the system to go unchallenged of veterinary surgeons being employed on, and taking up one side of a case and working it up as if they were solicitors or barristers. It was not professional, neither was it expert evidence. Expert evidence should be the honest opinion of a professional man on subjects regarding which he had been educated to form an opinion. It should not be what would suit a client, nor what would enable a client to win the case. In fact they should not talk about their case or their client.

He understood that the Inspectors of the R.S.P.C.A. obtained credit for the number of successful prosecutions which they brought. If this was so, he thought it was a great pity, because it tended to encourage the working up of cases in order to tot up the number of successful cases at the end of the year. He did not wish to say anything in disparagement of the Royal Society for the Prevention of Cruelty to Animals. The Society undoubtedly did incalculable good in safeguarding animals from cruelty, but he could not get away from the feeling that they were using as inspectors men who were not always sufficiently educated in the subjects required to carry on to the best advantage the work of the Society. (Hear, hear).

Personally he thought there was no doubt that the disputes over lameness in cruelty cases would gradually become less frequent as motor traction drove the trotting horse off the roads, because, as a rule, the slow-moving horse was not so often unfitted for work by lameness as the trotting horse.

With regard to the point mentioned by Mr. Hunting, disputes as to whether a horse had ringbone, or one disease or another, he thought the whole of these cases would be simplified, as he had suggested in his paper, by an accepted scientific nomenclature. Let them abstain from talking about a symptom as if it was a particular disease. Veterinary surgeons too frequently, he was afraid, spoke of the symptoms and not of the disease which gave rise to them.

Reference has been made to the question of working horses which were slightly lame. They must not think

for one moment from what he was going to say that he considered a horse which was suffering pain might be worked, but was there not another standpoint from which they should look at these cases, and that was from the point of view of the horse. If a horse could not be worked it was generally shot. Now, if every man who was slightly lame was asked if he would work or be shot, undoubtedly they all would prefer to work (Laughter). In the same way the horse might prefer to work. It was a very difficult problem—that of destroying life unnecessarily. They should not allow the suggestion to go forth that they countenanced the working of lame horses, but at the same time there were certain alterations in the action of horses, which, though considered technically as lameness, did not in practice prevent animals working without discomfort or pain. He was quite certain the horses to which he referred did not suffer the discomfort which many imagined. On the other hand, they frequently saw lame horses worked by people who would be the last men in the world to work them if they thought they were causing the slightest cruelty. This was very often the result of ignorance. Too much was left in the hands of the groom, and too little was known about the animal by its owner.

He had a number of letters from veterinary surgeons practising in the South of England, bearing on the subject of his paper. One of these gentlemen wrote that there are always three classes of witnesses to reckon with in Law Courts, and defined them as the witness to facts, the expert witness, and the liar. The expert witness might come very near drifting into the third class if he was not very careful how he expressed his opinion.

He considered there was a want of dignity on the part of any veterinary surgeon who took up cases to obtain convictions on technical quibbles. If men lost their professional status by acting in this way they lost nothing more than they had laid themselves out to lose (Applause).

On the proposition of the Chairman, seconded by Mr. Della Gana, a hearty vote of thanks was passed to Col. Blenkinsop for his very interesting paper, and Colonel Blenkinsop briefly acknowledged this compliment.

Mr. BURT proposed the customary vote of thanks to the Chairman for presiding. This was seconded by Mr. Lockwood and carried, and the proceedings then terminated.

THE ANNUAL DINNER.

In the evening the members dined together in an adjoining room, the Chair on this occasion being taken by Mr. Walter Burt.

At the conclusion of the repast the loyal toast of "The King" was submitted from the Chair and duly honoured.

Mr. E. WHITLEY BAKER proposed "Our Guests." It gave him a special pleasure to propose this toast that evening because they had among them as one of their guests a gentleman whom he knew several years ago as a fellow student. He referred to Colonel Blenkinsop. (Applause.) He knew the good work Col. Blenkinsop did in his student days and how well he always conducted himself, and he had since entered the Army, where he had risen, and he had also attained the D.S.O. That spoke for itself. (Applause.) Col. Blenkinsop had that afternoon placed them, as a Society, under a special debt of gratitude by contributing one of the most useful papers they had ever had placed before them. (Applause.) He assured Colonel Blenkinsop that they welcomed him amongst them, they hoped this was only the first of many occasions on which they would meet, and they wished him with all heartiness every possible success and happiness in the future. (Applause.)

Colonel BLENKINSOP, in returning thanks on behalf of the guests, remarked that as far as he personally was concerned it was very difficult to say how grateful one

really was. There were many things one looked back to as time went on, but there were probably few things one looked back to with greater pleasure than the good times they had when they were students. They met men and learnt to appreciate them in a way one rarely did in after life. As an Army man he would like to ask them to help the Army, and there were one or two ways in which they could easily do this. All veterinary surgeons were sportsmen, and as sportsmen he felt certain their profession would not allow the regular Army Veterinary Corps to go into the field in war time without the assistance which it would then require. But to render this assistance they must have training, and the only time when they could train was in the time of peace. The profession could train itself to assist its country in the time of war in two or three ways: first by letting the younger members join the Special Reserve of the Army Veterinary Corps; secondly, the middle aged men could join the Army Veterinary Corps Territorial Force; and thirdly, the older men could register their names for giving assistance in the event of that assistance being required. He wished particularly to appeal to those of them who were senior practitioners to persuade and offer facilities for the younger men to join the Special Reserve of the Army Veterinary Corps. The Territorial Force also required recruits. They found it very difficult to get the right class of men to come forward, and if they could assist in persuading the younger members to join they would be rendering a real service to their country. If they could not do either of these things, whatever they did, don't let them sneer at the men who were trying to do their duty. (Applause.) He thanked them very much for the kind way in which they had drunk the health of their guests, and, personally, he could not adequately express his gratitude. (Applause.)

Mr. BROOKMAN, who was entrusted with the toast of "Continued success to the S.C.V.S.," remarked that his first acquaintance with the Society only dated back to last September when he went to Aldershot and had a very enjoyable afternoon, and incidentally met a good many of their members. He could only say that he wished them every possible success. He was told they had eighty members, but the number should be larger seeing that they covered five counties—Surrey, Sussex, Kent, Hampshire, and Dorset—and he hoped the time would come when they would be able to boast several more members. (App.) While wishing the Society every success, which he thought they deserved, he desired to couple with the toast the name of one of their Vice-Presidents, Mr. Slocock, of Hounslow. (App.)

Mr. SLOCOCK, in reply, said he did not know what he could say for their Society except that he believed it was one of the best Societies going. (App.) It was a Society in which the members seemed to combine and pull together better than in almost any other Society he knew of. Possibly the members lived in a happier part of the world. Unhappily he was not located in one of these favoured districts, but in the poor county of Middlesex, where one had to struggle hard to get a living. Still, he was very glad to come to their gatherings, and he often wondered how it was they did not get a larger attendance of members. He thought one of the happiest and most pleasant meetings he had ever attended in the way of a small Society was their last meeting at Aldershot, when their friends of the Army Veterinary Department entertained them and enlightened them on many subjects. He did not think a body of ordinary practitioners could have met together for a day's outing and had such a mental treat as they had at Aldershot: there were so many little things and methods adopted at the Army Veterinary School that appealed to them as practitioners, and he believed when the time came for them to pay another visit they would see quite a large attendance. (App.) He had to thank

Mr. Brookman for the kind way in which he had proposed success to the Southern Counties Veterinary Society, and he was sure it was the wish of them all that both he and their other visitors would meet frequently amongst them. (App.)

Mr. DELLA GANA gave the health of "The Chairman." They all knew what Mr. Walter Burt had done for their Society in the past, and they also appreciated what he had done for the profession generally as a member of the Council. They were sorry indeed that he was no longer a member of that body, but he had not been bowled out—only stumped, and they looked forward to the time when he would go in again and do equally good work. (App.)

The CHAIRMAN, in reply, remarked that it was a very pleasant duty to have to return thanks. Mr. Della Gana had said one or two nice things about him which were perhaps more pleasant than true, but he preferred to believe they were just as true as pleasant. It was always a pleasure to come to the meetings of their Society because one felt he was meeting friends. He wished it were possible for every veterinary surgeon to be the friend of his fellow practitioner. At present it was not so in many cases, but it would be much better if it were so. (App.) They had decided that afternoon to hold their next meeting at Brighton, and he could only say that those of them who lived at Brighton would do their best to make that meeting a successful one. He also hoped that their President, Mr. Hunting, would be able to attend. (App.)

J. ALEX. TODD, Hon. Sec.

A VETERINARY ASSOCIATION FOR CONNAUGHT.

In response to a circular sent to the veterinary surgeons of Connaught, a meeting was held at Claremorris on Dec. 11th to consider the advisability of forming an Association for the Province of Connaught.

There were present: Messrs. D. Hamilton, Ballina; J. J. Vahey, Sligo; A. J. Moffett, Galway; P. F. MacCormack, Castlebar; J. C. Doran, Castlereagh; T. J. Flynn, Ballyhaunis; A. F. O'Dea, Tuam; and W. Ash-King, Claremorris.

Letters regretting inability to attend but sympathising strongly with the object of the meeting, were received from Messrs. J. J. O'Brien, Belmullet; E. A. Ryan, Strokestown; J. C. MacKittrick, Clifden, and P. M. McDonnell, Westport.

Mr. HAMILTON, who was elected chairman of the Meeting, in proposing the formation of an Association for Connaught, said that there were a number of young veterinary surgeons situated in different parts of the province who would feel the necessity of such an Association in which they could discuss matters of veterinary interest, and to which they could bring their grievances and obtain the support of the Association in obtaining their just rights. It was felt that the meetings of other Associations in Ireland were held at too great a distance for the majority of those residing in Connaught to attend without entailing great loss of time and some expense.

Mr. MACCORMACK seconded the resolution, which was carried unanimously.

The meeting then proceeded to elect officers for the year.

President. Mr. D. Hamilton, Ballina.

Vice-President. Mr. J. J. Vahey, Sligo.

Hon. Secretary and Treasurer. Mr. A. J. Moffett, Galway.

Committee. Messrs. Flynn, E. A. Ryan, J. C. Doran, and P. F. MacCormack.

The drawing up of rules was left to the Committee and to be discussed at the next meeting.

Milk Supply of Ireland Committee. The subject of giving evidence before this Committee was considered, and it was decided that the local veterinary surgeons give evidence at each centre where the Committee held enquiry.

Inspectorships under the Dairies and Cowsheds Order, 1908. After discussion it was resolved that the Local Government Board be asked not to sanction any lay inspector appointed by the District Councils when a qualified veterinary surgeon applied for the position.

Lectures to Agricultural Classes on Veterinary Hygiene. After some discussion as to the amount of the fee to be accepted for lecturing to these classes, it was agreed that a sum not less than two guineas per lecture be accepted.

It was decided that the next meeting be held at Claremorris on January 25th, 1912.

After a vote of thanks to the President for acting as such an efficient Chairman, a very successful meeting came to a close, and all the members adjourned to a substantial lunch.

A. J. MOFFETT, Hon. Sec. and Treas.

A CORRECTION.

Dear Sir,—Will you note an error which occurred in the report of meeting of the South Durham and North Yorkshire Association in *The Veterinary Record* of December 16th. Mr. Walker is there stated to have used Nuclein in a heifer which had a temperature of 102 for a fortnight, and the temperature remained stationary. The temperature of the heifer was stated by Mr. Walker to be 107.—Yours truly,

JAMES H. TAYLOR, Hon. Sec.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LONDON.

At a meeting of the Board of Examiners held in London on December 8th for the Written, and on December 15th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:

Mr. C. Holland *	Mr. H. Stephenson
E. J. Laine	B. M. R. West
C. W. Perrin	

The following passed their Third Examination:

Mr. S. E. Hill *	Mr. W. E. Petty
C. J. R. Lawrence	E. M. Robinson *
R. A. Murless	S. L. Slocock
W. F. Poulton	P. L. Thierry
A. A. Pryer *	G. M. Vincent

The following passed their Second Examination:

Mr. A. H. Adams *	Mr. B. J. W. Nicholas
W. P. S. Edwards	R. J. Stow
J. M. Knighton	R. H. Stalker
H. A. King	H. B. Williams
R. H. C. Lucas	H. S. Wright
G. F. Marais	

The following passed their First Examination:

Mr. J. Daly *	Mr. J. H. Stewart *
E. W. Garry	G. Simons *
W. Shipley	K. S. Simpson

Marked thus * passed with Second Class Honours.

EXAMINATIONS IN GLASGOW.

At a meeting of the Board of Examiners held in Glasgow on December 8th for the Written, and on December 13th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:

Mr. J. Scott	Mr. J. Gibson
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The following passed their Third Examination:

Mr. H. McD. Paul*	Mr. P. J. Turner
J. McL. Galloway	G. B. Cooper

The following passed their Second Examination:

Mr. W. Barr	Mr. J. D. Fulton
R. T. Smith	

Marked thus * passed with Second Class Honours.

EXAMINATIONS IN EDINBURGH.

At a meeting of the Board of Examiners held in Edinburgh on December 8th for the Written, and on December 13th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:

Mr. S. C. Currie	Mr. T. F. Sexton
J. R. Greig	G. Currey

The following passed their Third Examination:

Mr. R. L. Armour	Mr. R. E. Drennan
F. J. L. Croudace	S. E. Holmes
A. Q. Hall	D. R. Williamson
C. Nicholson	

The following passed their Second Examination:

Mr. E. Sewell	Mr. G. Williamson
J. W. Stanley	

The following passed their First Examination:

Mr. W. J. Bainbridge*	Mr. L. Littler
P. McLaughlin*	D. S. Phorson
T. M. Martin	T. A. Shaw

Marked thus * passed with Second Class Honours.

EXAMINATIONS IN DUBLIN.

At the recent examinations held in the Royal Veterinary College of Ireland, Ballsbridge, Dublin, the following gentlemen passed their Final Examination and were registered Members of the Royal College of Veterinary Surgeons:

Mr. F. J. Shearman	Mr. R. Marnier
T. L. Shea	W. J. O'Donoghue
R. P. Byrne	P. W. D. O'Connell
R. Devereux	A. O'Neill
J. J. G. Keppel	W. E. Phipps
J. T. Evans	V. Fox

The following passed their Third Examination:

Mr. M. McClancy	Mr. F. J. Carroll
J. J. O'Neill	T. F. Quirke*
W. P. Walsh	P. J. Sheil

The following passed their Second Examination:

Mr. L. A. Herbert	Mr. J. Campbell
F. D. Huston	S. O'Donel
St. J. C. P. McFarlan	M. H. Reid
J. Shannon	

The following passed their First Examination:

Mr. A. J. W. L. Birchall	Mr. J. P. Fahy
T. J. McDonald	M. J. McGing
G. McElligott	M. A. Murphy
T. O'Connor*	W. J. Ward

Marked thus * passed with Second Class Honours.

EXAMINATIONS IN LIVERPOOL.

At a meeting of the Board of Examiners held in Liverpool on December 8th for the Written, and on December 14th and 18th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:—

Mr. H. D. Lewis	Mr. E. L. Butters
-----------------	-------------------

The following passed their Third Examination:—

Mr. A. D. Morgan	Mr. V. A. Bartrum*
W. Atkinson	J. L. Williams

The following gentleman passed his Second Examination:—

Mr. M. W. Holland.

The following passed their First Examination:—

Mr. S. S. Herbert	Mr. B. Whittam
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PARLIAMENTARY.

THE FINANCE BILL.

In the House of Commons, on Tuesday, Dec. 12.

This Bill was considered on Report.

Mr. SANDERSON (Cumberland, Appleby, Opp.) moved a new clause extending the allowances in respect to the duty on motor spirits, now allowed to medical practitioners, to veterinary surgeons.

Mr. C. BATHURST (Wilton, Opp.) seconded. If the Government granted the exemption, he said, it would encourage veterinary surgeons to keep motor cars, which were a great convenience in enabling prompt attention to be given to outbreaks of anthrax, foot-and-mouth disease, etc.

Mr. Sandys, Major Anstruther-Gray (St. Andrews Burghs, Opp.), and Mr. Fell (Great Yarmouth, Opp.) supported the new clause.

Mr. McKINNON WOOD regretted that the Government could not make a concession in favour of veterinary surgeons. If they did so it would open the door to still further exemptions until the loss to the revenue became serious.

Mr. AUSTEN CHAMBERLAIN (Worcestershire E., Opp.) said that this was really a special case for exemption, and he was very sorry the Government had not seen their way to meet the claims made on behalf of veterinary surgeons. He supported the clause, and maintained that it was in the public interest that this exemption should be made. Veterinary surgeons had to travel very long distances in the beneficent cause of their work among animals, and unless they could take advantage of the motor-car a hindrance would be imported into their work, an increase of unnecessary suffering imposed on animals, and a great loss caused to one of the primary industries of the country. (Hear).

The House divided—

For the Clause	...	89
Against	...	165
Majority against		—76.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.	Swine Fever.		
	Outbreaks		Animals		Outbreaks	Animals.	(including Farcy)		Counties Affected		Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported			Outbreaks	Animals.	Animals Attacked				
Gr. BRITAIN. Week ended Dec. 16	19		19			1	5	11		17	51	552	
Corresponding week in	1910	29		30			1	4	Hertford	1	22	37	388
	1909	38		41			2	3			32	29	275
	1908	17		19			10	32	London	4	25	49	386
Total for 50 weeks, 1911	869		1075		19	487	203	489	Middlesex	1	399	2381	29214
Corresponding period in	1910	1403		1668	2	15	337	990	Warwick	5	449	1489	14147
	1909	1266		1639			519	1726			624	1604	14005
	1908	1057		1364	3	112	764	2371			780	2014	13304

Board of Agriculture and Fisheries, Dec. 19, 1911.

Parasitic Mange (outbreaks)

IRELAND.	Week ended Dec. 16	...	...	...	...	...	...	1	9	11	85
Corresponding Week in	1910	...	...	...	...	...	...	1	9	1	16
	1909	...	...	...	...	...	...	1	15	1	6
	1908	...	...	...	...	...	...	...	7	...	13
Total for 50 weeks, 1911	...	9	16	...	...	2	3	56	324	171	2499
Corresponding period in	1910	7	13	...	...	1	2	64	435	90	2135
	1909	8	8	...	...	...	...	74	396	88	1568
	1908	7	10	...	...	...	...	39	348	156	3598

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 18, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Personal.

Mr. TOM VALENTINE PETTIFER, F.R.C.V.S., The Knoll, Tetbury, Veterinary Inspector of the Board of Agriculture and Fisheries, has been appointed a Justice of the Peace for Gloucestershire.

The Veterinary Committee of the R.A.S.E. has recommended that Mr. Brennan De Vine, F.R.C.V.S., R.S.S., A.F.C.L., should be asked to deliver the lecture on "The Horse's Foot" in the showyard at Doncaster, 1912.

M. LECLAINCHE, Correspondent of the Institute, Professor at the National Veterinary School at Toulouse, has been appointed Inspector General, Chief of Inspection of the Veterinary Sanitary Service.

Prof. G. BARRIER, Director of the Alfort Veterinary School, becomes Inspector General of the French Veterinary Schools in succession to Dr. Chauveau.

Prof. VALLEE has been appointed Director of the Alfort School.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Dec. 15.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. L. L. Dixon from the Half-pay List to be Capt., and to rank for seniority without pay and allowances from Sept. 5 (Nov. 8); the notifications in the *Gazette* of Nov. 7 and 24 are cancelled.

Maj. F. W. Wilson on arrival from India has been posted to Aldershot as Officer commanding the Army Veterinary Corps Sections at that station.

The following officers embarked on 13th December for a tour of service in India:—Maj. A. E. Clarke, Lieuts. R. F. Bett, P. D. Carey, and E. G. Turner.

Capt. K. McL. McKenzie arrived from South Africa on 14th December, and has been posted for duty at York.

Capt. H. E. Gibbs on resigning the appointment of Deputy Assistant Director-General, Army Veterinary Service, at headquarters, has been posted to Shorncliffe.

The following officers have been transferred to the stations as under:—Capt. A. Edgar from Leeds to Athlone; Lieut. W. St. J. F. McCartney from Woolwich to Bulford; Lieut. R. C. G. Thwaytes from Aldershot to Dublin; Lieuts. W. H. Thomas and G. A. Kelly from Aldershot to Woolwich.

OBITUARY.

SYDNEY SMITH, v.s., Usk, Monmouthshire, died on Dec. 17th from senile decay. Aged 82 years.

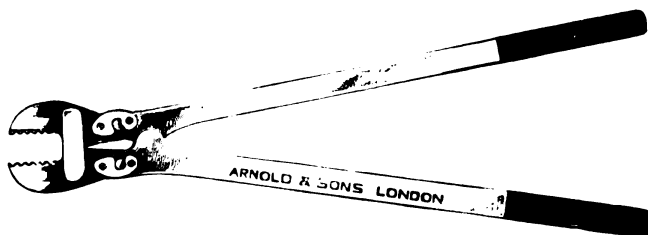
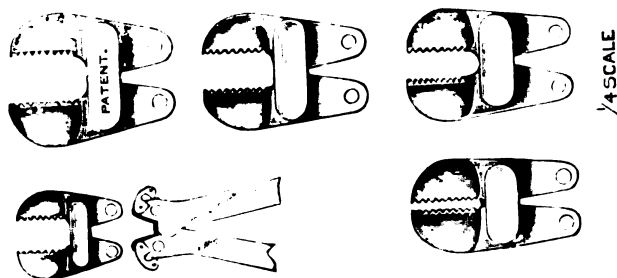
Mr. G. R. Murray, F.R.S.

The science of botany has lost a distinguished student by the death of Mr. George Robert Murray, F.R.S., who passed away at Stonehaven. Mr. Murray was born at Arbroath fifty-three years ago, and had devoted his life to botanical investigations. For some time he was Lecturer on Botany at St. George's Hospital Medical School and the Royal Veterinary College, London. In 1886 he became attached to the solar eclipse expedition to the West Indies, and about 1893 was appointed keeper of the department of botany in the British Museum. He was scientific director of the National Antarctic Expedition of 1901, and about that time became a Fellow of the Royal Society.—*The Daily Telegraph*.

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EASTERN COUNTIES. An old established practice in good agricultural district is for disposal. Represented as returning about £450. Low inclusive price for quick sale. Nice house and stabling, large paddock. PR. 118

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LONDON, N. Very old-established practice returning about £1200 per annum. Good house and thoroughly convenient premises, rent £90. The practice is principally horse. Receipts are increasing. Premium one years purchase. This practice is well-known to us and can be recommended.

SURREY. Rapidly increasing, well-established practice returning about £1000 per annum. Small house with stabling, kennels, etc. Capital required, including valuation, will be about £1300. The practice is well-known to us and can be thoroughly recommended to a suitable man.

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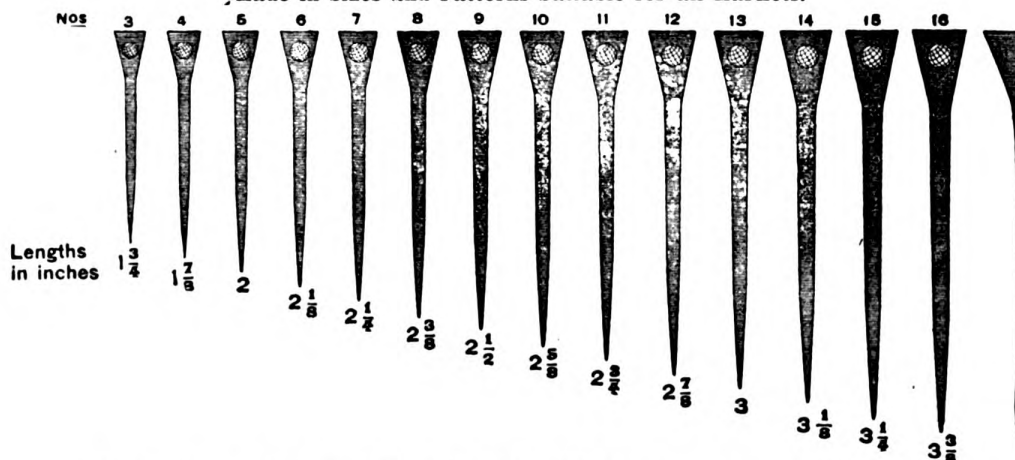
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The Central Veterinary Society

A GENERAL Meeting will be held at 10 Red Lion Square, W.C. on Thursday, January 4th, at 7 o'clock.
Agenda: Routine business: Specimens: "Botriomycosis," by Prof. G. H. Wooldridge. Amalgamation of Veterinary Societies, *re* Resolution passed by N.V.A. meeting. *Re* circular letter from the Association of V.O.H.

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WHEN replies to several of these advertisements are sent to this office at one despatch, it is not necessary that they should be stamped separately: they may be enclosed in one envelope, but should be marked outside "Replies."

News Cuttings.

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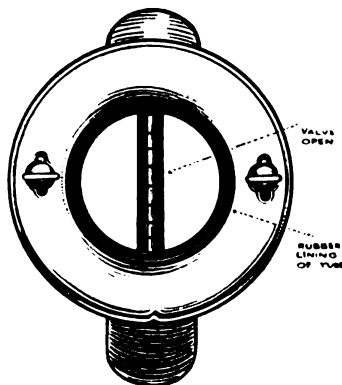
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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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VETERINARY EVIDENCE.

Col. Blenkinsop's recent paper upon this subject will probably cause a little discussion, and is certain to be widely read and pondered. It is an able and impartial survey of a subject replete with difficulties and pitfalls: and while it can initiate no radical reform, its perusal and consideration must do some good.

Of course, expert evidence in veterinary as in most other technical matters will always be a source of difficulty. However scrupulous professional witnesses may be, differences of opinion will always be common, and lawyers will accentuate them. But perhaps no professional function is so conducive to the gradual abandonment of scruple as the giving of expert evidence. A few good general rules of conduct for the guidance of expert witnesses may be laid down, as has been done by Col. Blenkinsop. But the difficulty lies in the practical application of such rules to the ever-varying conditions of individual cases, in the face of lawyers and clients who, of course, desire professional evidence as favourable to their side as possible. The last-named point forms the great temptation to professional witnesses to stray from the path of strict rectitude. Under its influence, very many men depart a little from scrupulous fairness, and some develop into perjurers.

Undoubtedly the present state of affairs is capable of improvement, though we do not think that matters are a whit worse within our profession than amongst medical men. But improvement is most likely to come very slowly, by a gradual education of the profession and the public alike. Many laymen do not yet understand how inexact and debatable a subject medicine is, and with a growing popular enlightenment in this respect, the dogmatic expert witness will become less in demand. Many professional men, also, do not fully appreciate the high responsibilities attached to the giving of technical evidence, and such papers as this of Colonel Blenkinsop's cannot fail to raise the ideals of a few. Men will read it, and call to mind cases in which, without conscious dishonesty, they have deviated a little from the strict code which should be observed by the professional witness—and some will do so less frequently in the future.

THE END OF THE YEAR.

Again, at this season, we tender all our readers our best wishes for the year to come. The year just ending has been quiet for the profession, and very anxious for the Body Corporate, and in the latter particular the coming year bids fair to be likewise. Nevertheless, there is a chance that 1912 will see the financial stability of the Royal College assured, and in that hope we say good-bye to 1911.

TUBERCULOSIS IN THE DOG. ✓

By E. WALLIS HOARE, F.R.C.V.S.

Subject. An Irish terrier dog, aged 15 months.

History. The animal when purchased by the present owner in January, 1911, was five months old. At that time he was in poor condition and looked unhealthy, but with good care and liberal feeding he commenced to improve slowly; he had a slight cough for about two months, but after this period got into good condition, and continued so until the last ten days of October. Then he showed evidences of illness, such as a capricious appetite, dull expression of countenance, and accelerated respirations; no cough was present, but the animal rapidly lost condition.

After showing the above symptoms for about ten days, he was sent to my infirmary on Nov. 1st, for treatment, and the following symptoms were observed. Condition poor, but no emaciation present; respirations accelerated, marked heaving of the flanks, and abdominal breathing, sad expression of countenance; the head and neck were carried in a stiff manner.

Physical signs. Right side—percussion showed complete dullness of a wooden character, and on auscultation there was an entire absence of the respiratory sounds. On the left side these conditions were also present, but far less marked. The cardiac sounds were rather indistinct and the cardiac impulse weak. Evidences of a slight degree of ascites were also present. No cough and no nasal discharge.

Diagnosis. Pleurisy with pleural effusion, probably tubercular.

While in the infirmary the dog seemed to improve and fed fairly well, in fact the owner was anxious to take him home, but I suggested the employment of the tuberculin test. However, the animal died during the night of Nov. 6.

Autopsy. The right side of the thorax contained an enormous amount of fluid of a light greenish tint, the mediastinum was fixed towards the left side; the right lung was pressed up to the vertebral column and completely collapsed. The left side contained a smaller amount of fluid. The costal pleura of both sides was inflamed, and showed very small tubercles, especially close to the sternal region. No organized lymph was present, and no adhesions. The abdominal cavity contained a small amount of effusion, but no other lesions were detected.

I forwarded the lungs and heart to Prof. Woolbridge, Royal Veterinary College, London, who kindly examined them and reported as follows:—

"The right lung was completely collapsed, and the pleura inflamed and covered by a croupous deposit. The left lung was collapsed along its lower edges only. The lymphatic glands of the chest were slightly enlarged and juicy, but showed no other changes. The left bronchial tubes were filled with a sticky, frothy exudate, which contained numerous free tubercle bacilli, as shown on microscopic examination and staining with Ziehl-Neelsen."

Remarks.—As is often the case with canine tuberculosis, symptoms were not present—or not observed—until the disease was far advanced. This dog was about nine months in his owner's possession, and beyond the slight signs of illness manifested during the first two months, nothing wrong was detected until five months afterwards. The animal was kept in the house and was made a pet of by children, but no suspicion of any danger existed.

This has been the usual history of such cases, but in the present instance the dog was young—only 15 months of age.

It is very probable that if post-mortem examinations were more regularly carried out, cases of canine tuberculosis would be found to be more common than is at present imagined. Unfortunately it is not always possible to obtain permission from the owners to make autopsies, and thus much valuable material is lost. Some will even object to the tuberculin test being carried out, although the importance of a correct diagnosis has been pointed out to them. Others, again, do not believe that tuberculosis occurs in the dog, and this erroneous view is fostered by the opinion expressed by some veterinary surgeons in connection with the subject.

CENTRAL VETERINARY SOCIETY.

An ordinary general meeting was held at 10 Red Lion Square, on Thursday, December 7th, Mr. R. J. Foreman, President, in the chair. The following Fellows signed the attendance book: Messrs. J. W. McIntosh, W. R. Davis, D. Stewart, P. W. Dayer Smith, R. Bryden, A. Gordon, J. F. Macdonald, E. Lionel Stroud, W. Perryman, A. Neish, G. H. Livesey, A. L. Butters, W. S. Mulvey, R. A. Philp, James Rowe, James A. Gosling, Wm. Willis, Herbert King, J. J. Kelly, Wm. L. Harrison, Sidney Villar, Profs. H. A. Woodruff, G. H. Wooldridge.

Visitors: Messrs. K. Davis, H. J. Hare, D. Blyth, and S. H. L. Woods.

On the motion of Mr. Stroud, seconded by Mr. P. Dayer Smith, the minutes of the last meeting were taken as read and confirmed.

CORRESPONDENCE.

The following letters were read:

Regret for inability to attend the meeting from Mr. James T. Angwin and Mr. W. Shipley.

Resignation from Mr. R. Porch and Lieut.-Colonel R. Moore.

From Mr. J. B. A. Hare stating in reply to a letter from the Secretary asking him to reconsider his resignation, that he adhered to his decision.

From Mr. Ainsworth Wilson deciding to continue being a Fellow.

From Capt. S. F. G. Pallin resigning his Fellowship

on account of being away for five years on active service.

From Mr. Alfred Prudames acknowledging the letter which the Secretary had been authorised to write to him on his resignation.

From Mr. G. J. Bell explaining that on account of his wife's illness he had been unable to attend the Congress at Belfast, and hoping that that had not caused the Society any inconvenience.

From Prof. Gofton, Hon. Sec. of the Amalgamation Committee, asking formal approval of the scheme.

From Mr. A. M. Trotter, *re* the Association of Veterinary Officers of Health.

The Hon. Sec. (Mr. Hugh A. MacCormack) stated that he had written on his own responsibility to Capt. Pallin explaining that while Fellows were on active service they became Honorary Fellows, and that on his return he would be placed on the full register.

The PRESIDENT said the Secretary had done perfectly right in replying to Capt. Pallin as he had done.

On the motion of Prof. Wooldridge, seconded by Mr. Davis, it was resolved that letters regretting resignation should be written by the Secretary to Mr. Porch and Lieut.-Col. Moore.

On the motion of Prof. Wooldridge, Prof. Gofton's letter was referred to the next meeting.

The PRESIDENT said the matter referred to by Mr. Trotter in regard to the Association of Veterinary Officers of Health had evidently been studied by a very strong board, and he thought they could not do better than agree to it.

Professor WOOLDRIDGE proposed, and Mr. Butters seconded, a resolution that the action of the Association of Veterinary Officers of Health should be supported.

The PRESIDENT asked if it were the wish of the meeting that the resolutions sent in by Mr. Trotter, as representing the Association, should be agreed to.

Prof. WOOLDRIDGE thought that as the resolutions asked for a great deal, the Society ought to be careful in wording its support.

Mr. BUTTERS said they might express approval of any scheme which would produce a pure milk supply and control tuberculosis.

Prof. WOOLDRIDGE moved: "That the Central Veterinary Society expresses sympathy with the action of the Association of Veterinary Officers of Health in their endeavour to obtain legislation for the control of tuberculosis and other diseases of cattle, and to obtain a pure milk supply."

The PRESIDENT agreed with the Resolution, as that would not commit them to anything at all.

Prof. WOOLDRUFF said that while he agreed with the resolution, it seemed to him that it was necessary to go a stage further. While sympathy with their colleagues was all very well, that sympathy might take a more practical form by urging the authorities which had power to act to do so. Pious opinions of sympathy were not much good at this time of day, and if they had not time adequately to discuss the question that evening he thought it should be put down on the agenda of another meeting later on in the session for a proper discussion. Such an important Society as theirs, the metropolitan Society, should take a lead in the subject, and not merely pass a pious resolution. The Association of Veterinary Officers of Health would be satisfied if the Society said they sympathised with them and were going to do their part to urge on the same programme.

Mr. MULVEY thought that they should surely discuss anything before sympathising or disagreeing with it.

Prof. WOOLDRIDGE suggested that such an expression of sympathy should be given as would not prevent the Central Veterinary Society from going into the question thoroughly.

Prof. Wooldridge's motion was agreed to.

Mr. MULVEY then moved that the subject be put on the agenda of a future meeting, to be held at an early date.

Mr. PHILP seconded the motion, which was agreed to.

Prof. WOOLDRIDGE suggested that Mr. Mulvey should himself bring it forward. That was obviously the right thing to do.

ELECTION OF FELLOWS.

The PRESIDENT announced that the following had been unanimously elected: Mr. J. W. SUGDEN, M.R.C.V.S., Southminster, Mr. J. A. GOSLING, M.R.C.V.S., 212 Goswell Road, E.C., Mr. C. A. W. CUNNINGHAM, M.R.C.V.S., 128 Goswell Road, E.C., and Mr. T. A. B. COCKSEGE, M.R.C.V.S., Emsworth, Hants.

PRESIDENTIAL ADDRESS.

R. J. FOREMAN, M.R.C.V.S.

Gentlemen,—There is one privilege the Presidentship of this Society carries with it that I appreciate—there is no discussion on this address. I think it would be a most happy position for a "cynic" to air his views from.

I would rather have been excused from inflicting this address upon you, but am told that custom cannot be altered to suit me, so here are a few of my impressions on subjects interesting to the profession at present.

I hope the time is close at hand when the Veterinary Amendment Bill will assist the Royal College of Veterinary Surgeons out of its difficulties. I think that a sufficient sum of money should be obtained from the annual fee to place the R.C.V.S. on a sound financial basis, but there ought not to be a prodigal balance to tempt a lavish expenditure at the expense of the general practitioner. When the "house is in order" the interests of the general practitioner, as being the main provider of the funds, should be the first consideration. Let him be protected to the utmost, especially against quacks, patent medicine vendors, not only through prosecutions where possible, but by finding some means of showing the public the folly of trusting to the much-advertised nostrums. We know that each practitioner does this in his own way amongst his clients, but such teaching takes a very long time to travel round. Surely something of the kind, undertaken by *The British Medical Journal* in their publication "Secret Remedies" could be done, and if written in a racy style it would sell like hot cakes, and more than pay for the expense. There have not been any libel actions against the *B.M.J.* that I have heard of, and I do not think we would need fear any. If this or some other scheme succeeded, I am sure not a G.P. would begrudge an annual fee of one, or even two, guineas, for he would be enabled to view the onslaught of motors with equanimity for a few more years.

There is a hardship which the publicity given to the Amended Bill has brought about; very many more "empirics" have started all over the country. Five or six unqualified men have set up in a district not very far from mine, and I have heard of other instances but not in such a wholesale style.

We ought to keep on agitating for the rebate on the Petrol Tax. It is a big item where 20,000 miles per annum are covered, and I have no doubt many motor-ing V.S.'s do that or more.

Then there is the action over the crest of the R.C.V.S. In some districts the crest is looked upon with great awe by clients, who would not think they were getting a proper powder or drench unless the label had the "picture" on it. In other more advanced districts, and especially amongst the business firms, it is probably never noticed, the M.R.C.V.S. being quite sufficient for them. In the old days, before education became so general, I think it was quite a necessity, but now that the term veterinary surgeon is more commonly used and understood than the old term "farrier," it is not so much needed. I think it is entirely a matter of individual preference

depending on the district. I use it on colic draughts to enable the public to more easily distinguish them from the ones sold by quacks, but if it is decided that we each have to pay the tax when using the crest I do not think the Exchequer will benefit through me. I do think a fee paid by the R.C.V.S. ought to cover us all in its use.

In looking over the swine fever returns it struck me that, in comparison with the total value of the three million swine in the kingdom, an enormous sum of money is being spent in trying to stamp the disease out, and up to now the attempt is a failure. It is time the "Powers that be" remembered the services of the general practitioners during the pleuro-pneumonia outbreak, and made use of them again to the same extent. We could do with some of the money now being wasted and give good value for it.

It will be a good day for the veterinary profession when the R.C.V.S. grants a diploma for a "Veterinary Department of Public Health," and as things are progressing in the mechanical world, the sooner the better. Such a degree would quickly receive recognition. It is no use waiting for it to be demanded from us, far better to have it ready, even if it has to be stored away for a time in a bottom drawer.

Has it struck any of you how the much discussed Insurance Bill will affect us. I will mention one point which, if a fact, will cause us a little amusement, or otherwise, each time it occurs.

Suppose I wish to operate on two days in one week. Having only one man regularly employed I send him on to the highway to get help. After a weary pilgrimage and much persuasion he inveigles three "unemployed workmen" to come and pull on a rope. I have to enquire of each man if he has earned 9s. and had his insurance paid for the week. Next day the same procedure with three different men. If the six have not been employed to the extent of the 9s., and my payment brings their earnings over that sum, I have to pay 1 6 in addition to what I usually give them, and I have to be a kind of a stamp office as well, for I suppose I shall have to go through the same performance each time I get a man to hold my horse. If I don't, and he gives me away, the fine will add to the fun of the thing. I may have misread the clause, but that is how I interpret it.

I have wondered if there will be any advantage to us as a profession through the treatment coming into fashion in human medicine. I mean "Organo therapy." It seems to be founded upon the old Indian habit of eating those parts of their fallen foes they thought themselves deficient in—heart for courage, testicles for potency, etc. The treatment is gaining ground and may take the place of drugs to a great extent; but the progress is slow, as only little work is being done in research by just a few very interested men. We might look into it and give data as to the special periods in the lives of animals when the value of the glands, blood and milk, is at its height; and also experiment in the improvement of animals so as to produce more active glands for any special purpose.

In conclusion, just a few words about ourselves. We have done well in the past and ought to live *up to* our reputation and not *on it*. There is a tendency to get slack and think "Oh, if I don't write a paper some one else will"; but if we are all thinking alike we come to a standstill. Perhaps we are not all capable of giving a paper, but each can join in the discussion or bring an interesting specimen. These three things are essential for the Society's existence.

As a change, occasionally a Fellow ought to be courageous and tell us of a dismal failure or two. It is very soothing to other Fellows to know that they are not the only ones who make mistakes, and much is to be learned through the failures, as well as successes of others.

I again thank all the Fellows of the Society for the

honour conferred upon me, and I hope to find from your continued support that you have not repented your choice.

CONGRESS OF THE ROYAL INSTITUTE OF PUBLIC HEALTH
DELEGATE'S REPORT.

Mr. President and Gentlemen,—On Tuesday, August 15th, the Royal Institute of Public Health held in Trinity College, Dublin, its third annual Congress in that city.

The programme informed us that the first Annual Congress ever held of the then British—now the Royal—Institute of Public Health took place in Dublin on August 17th, 18th, 19th, and 20th, 1892.

The programme also made the interesting statement that Dublin University was the first of the Universities in the United Kingdom to recognise the growing importance, which the Public Health question was assuming, and in 1875 instituted a special examination in State Medicine.

It would appear, therefore, quite in the fitness of things, that the Congress of the Royal Institute of Public Health should have found a resting place within the staid and sober walls of this historic and famous seat of learning.

We are told it was a custom much in vogue amongst the early Greeks, when the Elders assembled to discuss any great and pressing question of social or political reform, to meet in the open air, as they held that their deliberations were not assisted by architectural grandeur, but rather hindered by it. They maintained that "men's heads were thereby filled by 'vain and improbable fancies' when they were assembled for debate in places where they could see statuary and paintings, or the richly ornamental roof of the Council Chamber." I am not going to offer any opinion, or call in question the wisdom of the Greeks in arranging their business in their own way, but such ideas can scarcely be said to fit in with our modern views on suggestion and environment. We know the Greeks were an impressionable people, a lusty and energetic race, and probably the Elders were right, and considered it safer to keep them in the open, as they knew their bodies were as prone to sudden expansion as their minds, and during the process they would be found no respecters of persons or objects of high art.

He, however, would be a sorry jade indeed, who would sit unconcerned midst such surroundings as those of Trinity College, Dublin. To an Irishman especially who knows anything of the striking part this Institution has played in the intellectual life of the Nation, Old Trinity has, and will continue to have, a proud and abiding interest. Its intellectual history is inseparably bound up with and hallowed by the memories of men whose learning was as broad and general as the casing air, and so profound that their names and their teachings have penetrated to the uttermost ends of the earth. Beneath the shadows of those austere and gloomy walls have walked, obscure and alone, some of the brightest intellects that yet illumine and adorn the pages of English literature. Old Trinity has more than justified her existence; she is still instinct with an unfading spirit of youth; with posterity her place is secure. She has nurtured, matured, and inspired by her teachings some of the broadest and most fruitful minds that have ever—whether in the field or in the Senate—helped to shape the destinies of this mighty Empire.

It is curious to reflect that in a nation, which, from one period of its history to another, has been rent asunder, and torn with political or social strife, Trinity College has kept steadily burning the lamp of learning, and has sent out into the world men skilled in almost every branch of human knowledge. It would be unnecessary as well as difficult for me to touch on even the fringe of the subject, or pass in review the phalanx of

intellectual giants who have carried her name and her fame throughout the English speaking world.

She has given to medicine and surgery such distinguished names as Crampton, Collis, Butcher and Corrigan. To the practice of the law she has given such distinguished ornaments as Curran, Brewster, Bushe, Dowse, Whiteside, McDonagh, Pallas, Armstrong, and Isaac Butt—men whose wit, eloquence, and profound knowledge of the law maintained at its highest the already high traditions of the Irish Bar. To the realms of politics she has given Edmund Burke, Grattan, Plunkett and Flood. To dramatic literature she has given such imperishable names as Congreve, Masklin, Goldsmith and Sheridan—men whose works age cannot wither, nor custom stale their infinite variety; they are as fresh and invigorating, and as full of human interest to-day as the day they were written, and will in all probability endure as long as the English language continues to be the medium by which men communicate their ideas. In our own day may be mentioned such ripe scholars as Lecky, Ingram, Galbraith, Haughton, Mahaffy, and Ball.

The position of Trinity College, viewed from the standpoint of history, is unique and remarkable. She has never been at any period of her history, either in the spirit or the letter, national, or an expression of the spirit of the nation. She has held aloof from all national sentiment, or anything that would characterise her as truly racy of the soil. She has always been sternly on the side of the Constitution. She has maintained a chilly indifference to the moving aspirations of the times, and she remains to-day as much apart from the people as ever she was. She has remained almost impassive and apparently indifferent to the recent stormy period through which the education question has passed in Ireland, and which has culminated in the creation of a National University. Yet, strange as all that may appear, the fire of revolution has been kindled and kept alive in her very heart. A body of men have from time to time found their way within her walls in whom the spirit of revolt and revolution was the all-inspiring motive of their lives, and whose acts have at times done much to shake and thwart the power of the English Government in Ireland. Foremost amongst these might be mentioned Lord Edward FitzGerald, and Robert Emmett—men who, however mistaken their motives have been, have laid down everything—even their lives—in support of their convictions; and as time has mellowed their memories, and softened the feelings of those who disapprove of their opinions and condemned their methods, yet there is to-day a large body of Irishmen in Ireland and elsewhere of all shades of political and religious thought who do not hesitate to point to them as types of the purest and the noblest spirits that ever flew in the face of oppression, or sanctified with their blood the cause of human liberty in any country in the world.

Whatever may be the future history of education in Ireland, the record of Trinity College will be hard to beat, although the new National University may attract a greater number of disciples, and afford more scope and encouragement for the development of more advanced methods of thought, yet Trinity, by reason of her great traditions and intellectual associations, will always remain a source of pride and inspiration to Irishmen.

I am, however, reminded my business is to report the proceedings of the Congress of the Royal Institute of Public Health, but I may be pardoned for putting before you a few of the impressions that passed across my mind as I attended from day to day the work of the Congress.

The Congress was opened before a very distinguished assembly, under the Presidency of Lady Aberdeen, who delivered the inaugural address, in which she dwelt at considerable length on the importance of enlisting the

sympathies of women in any health movement, and pointed out the necessity of advancing the claims of women for a broader and better system of education in what she called the household sciences. She strongly maintained that whatever other branches of education claimed the attention of woman, or, however she may be turned away by side issues on public questions, the care of the household and the services of the home should always remain the primary function of woman.

The section of Comparative Pathology and Veterinary Hygiene was opened under the Presidency of Professor Mettam in the School of Pathology. The Professor opened the section by the delivery of an extremely able and interesting address, in which he dwelt at length on the question of infection as it occurred between man and animals. He said infection in the lower animals was the same, or almost the same as in man, and he maintained it was a false conception to consider man apart from the lower animals. Dealing with the question of tuberculosis, he marshalled a great variety of interesting facts in quite a masterful way. He said there appeared little doubt that infection in man was mainly from one human being to another, and the question arose how infection was handed on, and what was the portal for the introduction of the infecting agent. He did not think the respiratory tract was the channel of infection, but it was not possible to exclude infection from that source. From a wide experience he held that infection by the respiratory tract was rare, if it existed at all. He dwelt on the danger of using contaminated meat and milk—the danger from contaminated milk particularly could not be exaggerated.

The speakers were Colonel Moore, Mr. Winter, Mr. Cooney (President of the Dublin Victuallers Association) Prof. O'Connor, and Mr. Mason.

On Wednesday morning the real work of the section may be said to have commenced, when a paper was read by Professor McWeeney entitled "The Relations of the Bacilli of the Typho-coli Group to Meat Poisoning and Paratyphoid." In the course of this most interesting address the Professor said that most of the outbreaks of food poisoning hitherto recorded had been produced by the use of food that had not been in the least degree putrid. Moreover, he said, the alkaloids of putrefaction, in so far as they were poisonous at all, were quite capable of producing the symptoms recorded in carefully observed cases. In the deplorable outbreak of poisoning in Limerick recently in which so many people lost their lives, and which was traced to Gaertner's bacillus, the meat, though stale, was not complained of by those who partook of it. He had added the specific bacilli obtained in this case to a shin of cold beef, and he was astonished to observe the appalling rapidity with which it impregnated the meat without in the least interfering with its normal appearance. He strongly advocated that all killing should take place in abattoirs. All serious cases of poisoning had been traced to private slaughterhouses, and in such cases there was evidence pointing to the fact that the animal was ill, or actually dying, at the time of slaughter. In all these cases careful inspection revealed such conditions as pyæmic abscesses, umbilical infection, septic enteritis, or endometritis, more especially in wasted or emaciated animals.

Bacteriological examination was essential and should be resorted to at once in all such cases, and no properly constituted abattoir should be considered fully equipped without having been furnished with a laboratory where such investigations could be properly carried out.

A very full and interesting discussion followed, in which Sir Christopher Nixon, Professor Craig, Mr. Devine, Mr. Begg, Prof. O'Connor, Mr. Hatch (President of the Cowkeepers Association), Mr. Mason, and Mr. Cooney took part.

During the course of this discussion what appeared to me to be a rather amusing incident took place. Prof. McWeeney, as all who know him are aware, is an extremely able and highly cultured man. He has a clear fluent style, and speaks in a round voice, without a trace of any particular accent, but he has the faintest suggestion of a lisp. When Mr. Begg, a gentleman from the North with a pronounced Scotch accent, rose to contribute his portion to the discussion, he began by complaining that most of the interest of the paper was destroyed by what he called the Professor's "dialect." At this pronouncement there was some consternation, during which the learned Professor slowly elevated his gold rimmed spectacles to the bridge of his nose, and calmly contemplated, with a mixed expression, the gentlemen with the Scotch accent, who so bitterly complained of his "dialect."

Mr. Devine, F.R.C.V.S., read a clever paper on "The Contamination of Milk occurring between the cow and the consumer," in which he passed, in review, the methods adopted on the Continent in handling and preparing milk for public consumption. The paper also gave rise to a very full discussion, in which Sir Christopher Nixon, Messrs. Holland, Winter, Watson, Mason, Hatch, Cooney, and several other speakers took part.

Mr. Hatch forcibly called attention to the fact that men who, like himself, incurred considerable expense at intervals in having their dairy cows tested, and who embrace every modern idea that made for improvement in the conditions of handling and keeping milk, received no recognition from the public, beyond the man who complied only with those conditions which barely kept him within the law. He pressed strongly the point that those members of the medical profession who had the power should take this matter up and insist, wherever they could exercise that power, that men who were progressive in their methods, if not getting actually the preference, should be given at least proper recognition and encouragement.

On Thursday, Prof. Craig read a paper, which exhibited evidence of great care and labour in its preparation, on the "Diseases communicable from animals to man," and in the course of which he dwelt at considerable length on the numerous ways in which disease is transmitted, and pointed out how prevalent tuberculosis is in dogs and cats, and cited cases in which diseases had been communicated to man by pigeons.

Speaking to a vote of thanks to Prof. Craig, Mr. T. W. Russell, M.P., Vice-President of the Department of Agriculture, delivered himself of a very significant speech, in the course of which he dealt with the recent outbreak of anthrax in the County Wexford. He said that when cases of this kind broke out, he inquired from the responsible official in the Department the cause of those outbreaks, he was told they did not know. He, however, paid a high compliment to the Irish Veterinary Department, and said it was creditable to them that for a quarter of a century they had kept the country free from foot-and-mouth disease. He deplored that at this hour of the day research work had done no more for them than to draw a cordon around an affected area, and slaughter all within it. This is a striking example of the child-like simplicity which usually pervades official utterances when they pretend to deal with a subject of a purely technical character. It never occurred to Mr. Russell to inquire how much or how little the Department, of which he is the official head, had done for the prosecution of research work in Ireland. Mr. Russell was, however, very sympathetic, and said more research work should be done, and more money should be provided for it. They had in the Department been promised considerable sums of money by the Development Committee—a Department of State which had the distribution annually of three-quarters of

a million. They had had already £100,000, and other claims were still unsatisfied. The question of research work, he said, was immediate and important—not only to find out the cause of disease, but the necessary remedies to apply to them.

The other speakers were Prof. Mettam, Col. Moore, Mr. Dunlop, Mr. Winter, and Mr. Mason.

Sir Charles Cameron read a paper entitled "Suggested amendments in laws and regulations in dealing with milk." In the course of his paper, Sir Charles referred to some recent outbreaks of fever in Dublin, where investigation showed the disease was traceable to certain affected dairies. He considered the sanitary authorities should be empowered to prohibit the sale of milk in cases in which it was found that persons using milk from those sources suffered from typhoid fever, and where no other cause could be found. He advocated that persons engaged in handling milk should be from time to time submitted to medical examination. He also advocated legislation enabling compensation to be given for cows, which in the interest of Public Health had to be slaughtered.

Dr. McGuinness, referring to the question in the course of his speech, said the sanitary laws would never be complete until they had a Minister of Public Health appointed.

After some further discussion, Mr. Mason proposed, and Mr. Howard seconded the following resolution, which was passed:—"That in the opinion of this section the appointment of a Minister of Public Health is essential for the protection of the health of the Community."

Prof. O'Connor moved, and Mr. Begg seconded, the following resolution, which was passed unanimously:—"That legislation should be secured to enable the responsible officers of Public Health to prohibit the sale of milk from any dairy, where infection may be reasonably believed to be traceable to that dairy."

On Friday a paper was read by Mr. Cargill Patrick, F.R.C.V.S., on the "Keeping of animals, and their influence on Public Health."

There was also a paper by Mr. P. J. Howard, M.R.C.V.S., on the subject of "Meat inspection in rural Ireland—What it is and what it should be."

In the course of Mr. Howard's paper he contended that the methods of distributing meat in rural districts in Ireland was little short of a scandal. In many cases the butcher's shop was his dwelling house and slaughterhouse combined. Where private slaughterhouses existed they were often in connection with dwelling houses, or situated where hygienic conditions were impossible. He called attention to the fact that in most of those cases, it was the very poor who suffered the most, as certain unscrupulous traders openly supplied them with meat cut from diseased carcasses. He advocated the registration and licensing of meat sellers.

A considerable discussion arose, in which Mr. Hedley, Chief Veterinary Surgeon to the Department of Agriculture, Messrs. Watson, Begg, Mason, Holland, Winter, and Cooney took part. Mr. Cooney contending that until foreign meat and Chinese pork were submitted to close inspection and branding, there could be little hope of safe-guarding the Public Health.

Mr. Cooney proposed, and Mr. Mason seconded the following resolution which was passed unanimously:—

"That the Government be called on to pay out of the Imperial Exchequer compensation for all animals purchased in the open market, and presenting a healthy appearance, which on inspection after slaughter were found to be tuberculous."

This closed the business of the Section.

Viewed from the social side, the Congress may be fairly claimed to have been an unqualified success.

On Tuesday there was a steamer left for the Pigeon House and a trip in Dublin Bay.

On Wednesday, Lord and Lady Aberdeen entertained the members of the Congress to a garden party at the Viceregal Lodge, Phoenix Park. There was a special performance in the Empire Theatre in the evening.

On Thursday Mr. Stanley Cochrane gave a Garden Party at the beautiful grounds surrounding his house at Woodbrook, Bray. In the evening the annual Congress dinner was held in the Gresham Hotel.

On Friday the Committee of the Zoological Society, gave a Garden Party at the Zoological Gardens, Phoenix Park, which was largely attended. There were also drives to Lucan and Howth.

On Saturday Sir Christopher Nixon gave a Garden Party at Roebuck Grove, Miltown. The Pembroke Urban Council also gave a Garden Party at Pembroke Park.

There were a number of other entertainments given, which were more or less of a semi-private character. The weather was brilliantly fine, and left nothing to be desired in that respect.

It has been my privilege to attend the Congress of the Royal Institute of Public Health on three different occasions. It has, however, never been my privilege to grow very enthusiastic about the completeness of their arrangements. Those who are responsible for the organisation of those Congresses may be likened to that famous French family of whom it was said that they were never able to forget anything or to learn anything. The sections were too numerous and over-lapped badly with the result that some of them collapsed altogether, and the complaints of the delegates were loud and long drawn out.

The Section of Comparative Pathology and Veterinary Hygiene, under the Presidency of Professor Mettam, went without a hitch. The delegates were not numerous, but they were most loyal in their attendance, and the discussions, although carried on under considerable difficulties, were well sustained.

It is I think a great mistake that copies of the papers presented for discussion are not in the hands of the delegates at least on the morning of the opening of those Congresses. It is not given to every man, however wide his knowledge, to be ready in debate or to be able to collect his ideas or marshal his facts in proper order at a moment's notice. The result is obviously unfair to the man, who prepares a paper at the expenditure of much time and labour, and manifestly unfair to the delegate, who is called on to speak without some preparation. There were a number of delegates from other sections attended and took part in the discussions.

With the exception of Mr. McKenny and Mr. Heeney, all the Dublin practitioners were too busy to attend. Mr. Healy, of Cork; Mr. Winter, of Limerick; Mr. Howard, of Ennis; and Mr. Holland, of Athy, appear to have the capacity for annihilating space, when space comes between them and the performance of whatever services they can, by their presence or otherwise, render the profession. In spite of some of the disadvantages that inevitably, perhaps, surround the members of the profession in attending those Congresses, it is good, beyond all question, for the profession to be represented at them.

The meeting of the Congress claimed a large amount of attention from the public and the press of Dublin. Full reports of the meetings of the different sections appeared every day, and foremost amongst those came the Section of Comparative Pathology and Veterinary Hygiene. Apart from any consideration of public expediency, it is evident the profession has made a distinct advance in identifying itself with those Congresses. It has established its claim to be considered an important factor in matters relating to Public Health, and a force to be reckoned with in any legislative measures that may in the future be projected with a view to that end.

J. J. KELLY,

CONGRESS OF THE ROYAL SANITARY INSTITUTE.

Mr. President and Gentlemen, In accordance with the Resolution passed by the Society, I had the honour of attending as your delegate the 26th Congress of the Royal Sanitary Institute at Belfast, last July.

The customary introductory proceedings of the first day were enlivened by the presence of His Excellency, the Lord Lieutenant and the Countess of Aberdeen. The evening Meeting in the City Hall, when the President, Lord Dunleath, was installed and delivered his address, being a particularly brilliant function.

The sectional Meetings and Conferences began on the Tuesday. At the Conference of the Medical Officers of Health and Sanitary Inspectors papers relating to meat and milk are frequently discussed and are therefore of interest to the Veterinary Surgeon. This year the Medical men were largely interested in the Insurance Bill, but I shall have something to say later about the Sanitary Inspectors.

At the Conference of Port Sanitary Authorities (which unfortunately was held on the same day as that of the Veterinary Inspectors) an instructive paper on the importation of unsound food was read by Dr. Hanna. Among other interesting details as to the quantities of frozen meat imported, he informs us that during last year, 1910, there were 33,365 carcasses of Chinese pork imported into Liverpool. He also considers that the uniformity of inspection and branding of meat should be considered as an International question. The Conference of Veterinary Inspectors was held on Friday. There were a good many present, but as no attendance book had to be signed and most were strangers to me, it was difficult to estimate how many of those present were members of our profession. It was a poor attendance compared with the Brighton Meeting.

A number of Medical Men and Town Councillors took part in the discussions. The titles of the papers read were as follows:—

Meat Branding and Uniformity of Inspection, by Mr. W. G. Barnes, M.R.C.V.S.

Meat Inspection in the County Borough of Belfast, by Councillor O'Neill, M.D., etc.

The New Belfast Public Abattoir, by Councillor H. O'Neill, M.D.

The Modern Abattoir and its Methods, by T. Sherwood New, M.R.C.S., D.P., J.P.

It will be observed that only one of the above papers is written by a Veterinary Surgeon, I think it is regrettable that in a Section devoted to Veterinary subjects so few of our Members should have contributed papers. Of course it may be observed that two of the papers read were of local as well as general interest and could not perhaps be omitted from the programme, but all the same I think more literature by Members of our profession would have been appropriate and welcome.

Mr. J. A. Jordan, M.R.C.V.S. City Veterinarian, Belfast, was the President of the Conference.

He gave an able and interesting address and dealt chiefly with the subject of branding or marking meat after it had been examined by a qualified inspector. He pointed out that at present the consumer had no guarantee that the meat he was purchasing had been examined and found free from disease. If, however, the system of branding were generally adopted, he would know whether he was getting imported frozen or chilled meat or home killed meat. He would also know that it had been inspected and found to be sound. The advantages of branding would not be confined to the consumer, they would also extend to the honest trader. He thought it would help to bring about a general adoption of the system if hospitals and other bodies that were large consumers of meat were to insert a clause in their tenders, that they would not accept any meat unless it had been slaughtered, inspected and branded at a public abattoir.

He regretted that owing to opposition they had not been able in Belfast to make branding compulsory. They had introduced the system of marking meat with a rubber stamp, but it was not used until after they had obtained the consent of the owner. In practice, however, it had been found that the use of the rubber stamp was not always quite satisfactory, as the ink would sometimes run and discolour a large surface of the meat. Several kinds of ink had been tried, but he had eventually overcome all difficulties by the invention of a branding iron which was heated by electricity and made a clean indelible mark, which could not be objected to.

Mr. Jordan subsequently gave a demonstration with the iron, marking some organs and pieces of meat in a most satisfactory manner, and there can be really no objection to this method of marking meat. Mr. Jordan is to be congratulated upon his invention, but it has since occurred to me that a more portable branding iron could be made than the electrically heated one, one heated on the same principle as our thermo-cautery. I think the wires must limit to some extent the area in which the electric iron can be used, besides, the current might not always be available. I can recall seeing such a cautery being exhibited at one of the meetings of this Society many years ago by Mr. Beach, M.R.C.V.S., Bridgnorth. It was very simple and very portable. I leave the settlement of this subject to those who are practically interested in it.

Owing to the unavoidable absence of Mr. Barnes M.R.C.V.S., his paper on "Meat Branding and Uniformity of Inspection," was read by Dr. Collingridge, of London.

In his paper he refers to the attention which this subject is at present receiving at home and abroad. The French Government has called an International Conference to investigate the matter, and it is hoped as the result of its deliberations definite arrangements may result in a recognised International standard of inspection, as we are large importers of meat and cattle, this subject affects us very much.

Briefly put, he considers a pure meat supply can only be secured by the adoption of a universal compulsory abattoir system, the scientific inspection ante and post-mortem of all animals intended for the food of man, and the branding or marking of all meat. The ante-mortem examination is in some instances more important than the post-mortem. He refers to the different Public Health Acts in the United Kingdom, and points out that the Act in force in Scotland is the only one which gives the veterinary surgeon a legal standing, and is besides the fairest to the butcher. He also gives some useful and interesting information as to the methods of inspection and branding as carried out in our Colonies, on the Continent, and the United States of America. Incidentally he refers to the high degree of cleanliness and sanitation which is now demanded in the latter country, since the Packing House scandal of a few years ago. I think it's very probable we shall get no improvement in our Public Health Acts until the public are thoroughly roused by an exposure of the many tricks and dodges of the screw butcher in the private slaughter houses.

The next paper read was also on Meat Inspection, as carried out in the County Borough of Belfast. The author, Dr. O'Neill, described the method adopted in the City to secure a pure meat supply to the inhabitants.

The staff there had consisted of one veterinary inspector and one assistant, four lay inspectors, and one probationer. They had a public abattoir where 25,364 animals were slaughtered last year, and of these over 8 per cent. were found affected with tuberculosis. They had also a unique establishment in the shape of a meat inspection depot where all carcasses slaughtered outside the city boundaries had to be brought for inspection before being exposed for sale. I do not know of any

other city having such a dépôt. They stamp the meat after inspection if the owner consents, as they fail to get powers to make it compulsory.

The value of the dépôt may be judged by the large numbers of carcasses cut and organs examined yearly. Dr. O'Neill considers that the successful method of meat inspection adopted in the City of Belfast is due in great measure to the experienced, well trained, and tactful inspectors employed under the immediate supervision of Mr. Jordan, M.R.C.V.S., and Dr. Baillie, Medical Superintendent Officer of Health. Dr. O'Neill laid much stress upon their being tactful. Tact prevents much opposition.

The next paper was also read by Councillor Dr. O'Neill in the new Belfast public abattoir. As may readily be guessed Dr. O'Neill is an enthusiast on the subject of meat inspection and all that relates to it, and has spent much time and energy in striving to obtain a supply of pure wholesome meat for the inhabitants of Belfast. When conducting us round the new but still unfinished abattoir, he told in the most interesting way some of the difficulties he had experienced in arousing the interest of his fellow councillors to the importance of the matter how a public abattoir was erected and meat inspection begun, then as this building became in time inadequate, how he travelled on the Continent to inspect the abattoirs and study the methods adopted there; having learned himself, he persuaded some of his fellow Councillors also to travel and see for themselves how our neighbours on the Continent managed the slaughter and inspection of the meat supplies in many of the large cities. He thus obtained their hearty co-operation in obtaining powers to have the present abattoirs erected; compared with those on the Continent, it is small, but it is well arranged and has all the best necessary appliances and is worthy of such an important city as Belfast.

I could not help reflecting what a good thing it would be if more of the Councillors in our large towns and cities were to take a similar personal interest in the welfare of the inhabitants so far as regards the meat supply; unfortunately it is the poor, who really require good nourishment, who suffer the most, but this by the way.

Dr. O'Neill's paper gives the measurements of the site, the position of the various buildings and passages, and details of the internal fittings of each. I observed that in the administrative block of buildings intended for the accommodation of the staff, there is to be a laboratory for the use of the veterinary surgeon.

We cordially endorse the hope expressed by the author that when the new abattoir is complete and in use, it will be one of the first and most complete abattoirs in Great Britain.

The next paper on "The Modern Abattoir and its Methods" for want of time was not read, but the author, Dr. Sherwood New, made a few remarks upon it and also upon a number of the instruments commonly used for slaughtering animals which he had brought; the use of the free bullet, as in the Greener killer, was condemned as dangerous, and the Behr pistol, which expels a plunger that penetrates the brain but cannot leave the pistol, was recommended as the safest and most humane. I should mention that Dr. New's paper is a most interesting one. In it he states concisely the requirements of a modern abattoir, drawing his information on the subject from Continental sources.

The discussion which followed was animated, some of the Councillors who took part were apparently anxious to fight the battles of the Council Chamber over again. In many respects this may be considered a satisfactory meeting. Both in the papers and in the discussions the position which the veterinary surgeon should occupy in this department of public health work was recognised and acknowledged. The ideal system, it was said, of

meat inspection is where the Medical Officer of Health and the veterinary surgeon are combined. I think the profession should not rest until that position is legally established.

At recent Congresses which I have had the privilege of attending, in many of the papers on subjects relating to some of the various aspects of the milk questions, I have noted appreciative references to the importance of the duties of the veterinary surgeon and the position he should occupy in public health. But in one instance at least this was not the case at Belfast. I refer to a paper entitled "The Modern Cowshed," by Mr. J. A. Sutton, Inspector of the milk supplies for Nottingham, and read at the conference of sanitary inspectors. The paper in some respects is a good one, but the author entertains peculiar views regarding the duties of administrative bodies and veterinary surgeons. Although I contradicted some of his statements at the meeting, I will take this opportunity of making some further criticisms on it. I will not trouble you with his opinion of administrative bodies further than to say he considers the inspector should be independent of the administrative body of the district where he works. He does not say, however, to what authority he should be responsible. In the early part of his paper he expresses his opinion as to the method of obtaining a pure milk supply: he says, "The better housing of dairy cows is without doubt the first thing needful for securing the purity of the milk supply, which is sent for consumption into our large cities." Now this appears to me a most misleading statement, it looks like putting the cart before the horse. I imagine most unbiased people who gave the matter a moment's consideration would conclude that the first thing needful, in fact the indispensable thing for securing a pure milk supply, is a healthy, well-fed cow. Besides it should be borne in mind that in certain places and at certain times of the year, the cows are never housed, and when this is the case the milk is by many considered the most wholesome. The main factor, indeed the only fountain and origin of a pure and wholesome milk supply is undoubtedly a healthy, well-fed cow, yet how often is this fact overlooked or forgotten in discussions about milk.

Further on in his paper he says, "The health of the cow to a great extent (in fact more than is generally recognised) depends on its environment, and particularly on the hygiene of the building in which for a greater part of the year it is housed; therefore to secure a pure milk supply we must have healthy cows and to have healthy cows we must have hygienic cowsheds." Now nearly everyone will agree with this statement, but here again he gives the cowshed an importance which it does not possess and omits to mention other matters of equal, or perhaps more importance as regards a pure milk supply. Every practical man knows that healthy cattle in the most hygienic cowshed will not long remain healthy or give good pure milk unless they are properly fed and looked after, yet there is no reference to this important fact. It is essential that we should have hygienic cowsheds for dairy cows when it is necessary for them to be housed, but the buildings are only one of the means to an end when that end is a pure milk.

I must trouble you with another rather long quotation from Mr. Sutton's paper, in which he expresses his views about our profession. "Next in importance" he says, "to the mode of administration is the qualification of the Inspector himself. Many well-known veterinary surgeons consider that the control of the dairies and cowsheds should be exclusively in their hands. Why this should be so I fail to see. I will admit that a veterinary surgeon is, or should be competent to inspect a live animal, but not being a sanitarian, he has little or no knowledge of building, the laying of drains and the multifarious details which are distinctly within the province of the sanitary inspectors. The inspection of

cattle has for its object the discovery of disease from which the cow or cows may be suffering, and the prevention of the spread of such disease through the medium of milk supply. It is not a difficult matter to find out if a cow has anything the matter with the udder, and it is very simple to take samples of milk direct from the udder and from each teat if required, and to submit the same to bacteriological examination. That is the method we adopt at Nottingham. If milk is found to contain the germs of a disease, e.g., tuberculosis, our investigation would be narrowed down until the particular animal giving it would be certain of detection. There are many other common ailments which affect dairy cattle, especially their udders, but none of these present much difficulty of detection or diagnosis if the above procedure is carried out. I have no desire to underrate the value of veterinary advisers. If the profession can prevail on municipal and other bodies to appoint another specialist to their health departments all well and good, but in my opinion the sanitary inspector is better fitted by his experience for the inspection of dairies and cowsheds than is a veterinary surgeon."

Such is the veterinary surgeon as seen through Mr. Sutton's spectacles.—I will leave you to say what you think of the picture. Your delegate and Mr. Dixon, M.R.C.V.S., Leeds, felt it necessary to at once contradict some of his assertions in view of the publicity which was given to the paper by the press. Mr. Dixon pointed out the waste of time involved by his method of diagnosing tuberculosis by simply taking samples from the udders and sending them to a bacteriologist for examination. It might take months before the diseased animal was identified. He also referred to the training in sanitation which the veterinary surgeon received at college; and thought many veterinary surgeons would criticise adversely some of the points he mentioned and illustrated by the diagrams exhibited.

Your delegate spoke, and as reported in the daily newspapers, said, "I wish to combat in the most strenuous fashion the contention in the paper that the veterinary surgeon was not a sanitarian." I also stated that part of his daily work was to point out the necessity and value of fresh air, and to insist upon cleanliness, good food, and pure water. And in this sense he was really a teacher of sanitary science. I also referred to the experience we had gained in the past, in the stamping out of contagious diseases in cattle without the modern cowshed, and that it alone would not do much to get rid of tuberculosis. Had time permitted more might have been said.

In conclusion, I would remark that I think it is hardly worth while the profession taking Mr. Sutton's views too seriously, although they show the trend of opinion in a section of public officials. We all know the value of sanitary buildings for dairy cows—as well as for other animals, and the real part they play in preventing and eradicating disease. We also know that hygienic cowsheds will not prevent errors being made in diet or management of dairy cows—common causes of illness and an impure milk supply. Neither will they prevent an epidemic of scarlet fever being spread by the milk, if any of the persons handling the milk are suffering from that complaint.

Looking back a few years on our past experience, we can remember that contagious pleuro-pneumonia in cattle was not got rid of merely by improvements in cowsheds. Neither are we getting rid of glanders in horses by improving the sanitary conditions of stables, and if we are to get rid of tuberculosis from our herds other measures far more important than the construction of the modern cowshed will have to be adopted, and these to be carried out efficiently will require the services of the trained veterinary surgeon. I repeat we (the profession) are all well acquainted with these matters, but the general public are not. Unless we take steps to

enlighten them on our past work, and also on the advantages which our improved training and scientific knowledge gives us over others in getting rid of preventable disease from our herds and securing a supply of healthy meat and milk, unless we do this we shall undoubtedly be left behind in the race for public recognition.

A. L. BUTTERS.

Prof. WOODRUFF wished to call in question the action of the Council of the Society on a particular matter. Some time ago he had felt it his duty to bring up the question of the appeal of the London County Council against the decision of the police magistrate in favour of Mr. Kirk, and the Society at a general meeting, with its usual generosity, was quite in favour of looking upon it as a professional matter and joining with Mr. Kirk in defending that decision. The general meeting had recommended that a sum of five guineas be voted to the appeal fund, and he believed that that resolution was carried unanimously. To his astonishment he found that when the matter came before the Council that decision was absolutely vetoed, and the very reverse decision was come to. Personally, he had no complaint except that it seemed to him, as a humble member of the Society, that it was an extraordinary thing that a unanimous decision at a general meeting should be reversed by the Council without any explanation being given. His object was to put some of the Councillors on their defence as to why they spoke and voted in one way at the general meeting and in another way at the Council meeting. He believed that the motion to contribute five guineas was made by Mr. Butters.

[The report was referred to, from which it appeared that the motion was proposed by Mr. Sanson, and seconded by Prof. Wooldridge].

The HON. SECRETARY said that it had been moved as a recommendation of the Society to the Council, and the Council had voted against it.

Prof. WOODRUFF wanted to know why they voted against it. When a unanimous vote was passed by the General Meeting some reason should be given why members of Council should sit there silent and vote in favour of the Resolution and vote in another way in secret conclave.

The HON. SECRETARY said that as Prof. WOODRUFF was on the Council now he could bring the matter up at the next Council Meeting and have it out amongst the Fellows.

Prof. WOODRUFF said it was a question of the rights of the General Meeting, and not a question for the Council.

The HON. SECRETARY read the Resolution, as follows: "That it be a recommendation from this Society to the Council that a subscription of five guineas be given towards the Defence Fund if necessary." He had spoken in favour of it at the Council, but others had not, and it was quashed.

Prof. WOODRUFF said he was not criticising their action, but was asking for a reason.

Prof. WOOLDRIDGE said the matter brought to light a proceeding which was very bad, namely the lack of any Report of the Council. In most Societies with which he was associated the Council presented a report to the next General Meeting. So far as he remembered that had not been the custom of their Society.

The HON. SECRETARY said it had never been done.

Prof. WOOLDRIDGE thought it ought to be done, and the present incident showed the great necessity for it. The Resolution had been carried unanimously, and it was only recommended to the Council simply because the Society as a whole had no power to make grants. It had been sent to the Council more in the nature of an instruction, as a direct recommendation that the grant should be made. Although the Council were within their strictly legal rights, he thought they had certainly

acted morally *ultra vires*. He joined Prof. Woodruff in asking that some explanation should be forthcoming, and he suggested that it should be given by the gentleman who happened to be in the Chair on that occasion. He himself had not been present at the Council Meeting, and did not remember receiving a notice of it.

Mr. MULVEY said that he had been in the Chair, but as no reports of the Meetings were published, his memory merely being that of an ordinary man he had not the slightest recollection of what did happen.

Mr. SIDNEY VILLAR did not profess to have a better memory than Mr. Mulvey, but he did recollect some of the proceedings at the Council meeting. He did not, however, propose to say what they were. If the President thought it right to give an explanation, well and good, but he did protest against the action of Professor Woodruff and the gentleman who followed him in calling upon the Council to explain its conduct. The Council had the power of spending the Society's money, indeed it was the body which was responsible for its funds, and at its meeting it undoubtedly considered this matter for a long while, and eventually thought fit not to fall in with the recommendation of the General Meeting. If the conduct of the Council was not approved the proper course would be to not re-elect its members, but not to ask for explanations which might be difficult to give at a public meeting.

Prof. WOODRUFF said there had been no open meeting of the Society since the Council came to that decision, and therefore it could not be called into question before the election of Council. It could not affect the election of Council, because that was the first opportunity which presented itself for bringing the matter up. His other point was that it was a very extraordinary proceeding for men who were members both of the General Meeting and the Council to vote in opposite ways at those meetings.

Mr. PERRYMAN thought that such a statement should not be made; the vote at the Council meeting was not a unanimous one.

Prof. WOODRUFF said that it was unanimous at the General Meeting.

Mr. PERRYMAN did not think they were called upon as a Council to give the *pros* and *cons* why they arrived at their decision, although perhaps they were wrong in not reporting that they had so decided. But he repeated that it was not the unanimous vote of the Council, so that it was not fair to suggest that the councillors voted one way at the General Meeting and differently at the Council Meeting. He did not think that was the case.

Prof. WOOLDRIDGE said it was quite possible that some of the members of Council had not been present at the General Meeting.

Prof. WOODRUFF agreed that that was so, but thought that as there was a majority against the grant at the Council meeting it was probable that some of the members had been present at the General Meeting and sat silent.

Mr. BUTTERS said there were some points which came before the Council which did not come before the General Meeting. The Council had more information with regard to the resources of the Society.

The PRESIDENT thought that most of the members of the Council had now spoken and defended themselves, but he did not think any defence was needed. The point was sent to the Council to deliberate upon, as to whether it was a proper thing to make the grant, and it had decided that it was not. In his opinion that was quite sufficient. It was a unanimous vote that the Council should be asked to consider the matter, and it had done so.

Prof. WOODRUFF said he was quite satisfied. The present proceedings were public, and, thank goodness, were reported, and that achieved his object.

The PRESIDENT did not think it was fair to ask Prof. Wooldridge to read his paper on "Botriomyces" seeing that the meeting must terminate in ten minutes. He therefore suggested that it should be postponed till the next meeting. Agreed.

A NEW ÉCRASEUR.

Prof. WOOLDRIDGE said he would like to introduce an instrument which had been invented by one of their students, Mr. Woods, viz., a new écraseur. He had intended to refer to it in dealing with the subject of botriomyces, because it was particularly useful in the excision of scirrhus cord.

The advantage of Mr. Wood's écraseur was the method by which the chain was shortened. It was on the revolver principle, so that one could use it entirely with one hand instead of requiring two. It was a very simple device, and so far as he could see it was an improvement on écraseurs already on the market. Mr. Woods' was not on the market yet, but protection had been applied for. There was a very simple way of releasing the chain. There was a spring at the back which could be pushed up, and the chain could then either be tightened or slackened as required. It slid down, and then to pull it up again one released the ratchet. It worked quite easily. It was done with a series of cogs, but there was an arrangement by which when cutting soft tissues three of the cogs could be taken at each pull, while in cutting through denser, harder tissues one could reduce the pull to a single cog, thereby increasing the leverage very considerably and cutting the tissues more easily. It also made the crushing slower and thereby reduced hæmorrhage.

Mr. Woods said that the instrument shown was only a rough working model, and the present check action would be done away with. He had a better idea, whereby one could press a spring at the side and throw it out of action for pushing forward. In old écraseurs it was found that one sometimes missed when there was a tight pull on it. He thought it was Mr. Dewar's patent where there was a special arrangement for pushing the chain forward, and one sometimes missed a cog.

He had made several models of the instrument. The first was made out of an old cigar box. Then he thought that more force could be exerted by bringing the whole of the arm under it, but he found the instrument threw up. Then he had a sort of claw which pulled it towards one, but he found a weakness in it; it might give way at an awkward moment. He had now a pushing action, so that there was no possibility of its going forward; the mere fact of pulling it back wedged it tighter than it was before. The present check action was merely done for temporary purposes; the other arrangement of which he had spoken was attached to the handle, and by just pressing a knob one would be able to slide it forward or pull it up as one wished.

So far as power went, he had found it sufficiently strong to cut through any tissue on which it might be used. (Mr. Woods experimented on a fairly thick roll of leather, but unsuccessfully.) He explained that the trouble was that a very weak spring had been put in, but it would be seen that the idea was very good.

Prof. WOOLDRIDGE said that an ordinary écraseur would find the leather very difficult to cut; it was not a fair test.

Mr. Woods said he had tried it successfully when it was in proper working order. He had found it would cut through tissue as thick as could be found in practice, and of course it was easy to clean.

The PRESIDENT said if it would cut through that leather it would cut through anything.

Mr. Woods said it had done it that morning quite successfully; he had shown it to Prof. Macqueen. The

makers had put on a check spring for temporary purposes which did not seem very satisfactory.

VOTES OF THANKS.

Mr. PERRYMAN moved a vote of thanks to the two delegates, Messrs. Butters and Kelly, for the interesting reports they had presented.

Prof. WOOLDRIDGE, in seconding the motion, expressed the opinion that the Society could not possibly have sent better representatives. They had sent a very strong fighting man over to Belfast who had beard some of the lions in their dens and had shown sanitary inspectors that there were two sides to the question, and that theirs was not always the right one. Mr. Kelly's eloquence in defending Trinity College, Dublin, was, he thought, appreciated by all present—not that it wanted any defence—and the detailed report he had presented was a very excellent one.

The votes of thanks were carried by acclamation.

Mr. BUTTERS, in returning thanks, said that as a rule such meetings as that at Belfast were very pleasant: there were many social functions which helped to make the time pass very pleasantly. Of course there was work connected with the duty, which had to be attended to, such as securing copies of the papers and making a hasty perusal of them in order to see if there was anything which required supporting or contradicting.

Mr. KELLY, in thanking the members, said that when he was informed by their very estimable and extremely energetic Secretary that he was delegated to appear in Dublin to represent the Society he felt extremely gratified and honoured, one reason being that he had but lately been elected a Fellow of the Society and was therefore a comparative stranger, and the other being the fact that the Society exercised a powerful influence in the profession not only in London but in the United Kingdom.

HUGH A. MACCORMACK, Hon. Sec.

The Alleged Ringbone Case at Castle Douglas.

Sheriff-Substitute Napier gave decision on Tuesday, in Kirkcudbright Sheriff Court in the action by Thomas Black, farmer, Parton Mill, against Hugh Crawford, cattle-dealer, Castle Douglas.

[The proof of this case appeared in our issue of Dec. 16, p. 382.]

INTERLOCUTOR:

Kirkcudbright, 12th December, 1911.—The Sheriff-Substitute having heard parties procurators and considered the cause, finds in fact (1) that on 20th May last the pursuer sold to the defender a Clydesdale gelding with a warranty of being sound so far as known; (2) that this warranty was given in good faith, and was true; (3) that the defender having asserted that the horse was lame, the pursuer and defender agreed on 29th May to refer that question to Mr. Campbell, V.S., Castle Douglas; (4) that on 30th May, about mid-day, Mr. Campbell examined the horse at Marchfield Farm, and gave it as his opinion that it was not lame; (5) that the second examination of the horse made by Mr. Campbell later on the same day, was not made with the consent of the pursuer, and Mr. Campbell's decision then given that it was unsound is not binding on the pursuer. Therefore sustains the pursuer's third plea-in-law, repels the defence, decerns against the defender as craved for £14 9s. 2d. being the balance of the price of the horse, along with the expenses of sale under warrant of court. Finds the pursuer entitled to expenses, and remits his account thereof to the auditor to tax and report.

Signed LAWRENCE T. NAPIER.

Note.—On Saturday, 20th May last, the pursuer sent a three-year-old Clydesdale gelding to be exposed for

sale at a sale then held at Diamonds Laggan. At the exposure he admits that he warranted the horse "sound so far as known." Mr. Walle's explanation as to what this warranty means will be accepted. He says it means that the seller has never seen the horse lame, and that in good faith he believes it to be a sound animal. He adds that such a warranty coming from a farmer who has had the animal in his possession for some time carries more weight than coming from a dealer who might have had it in his possession only for a day or two. The pursuer had reared the horse. Accordingly the warranty carried as much weight as such a warranty possibly could.

The first question is, was it true, and given in good faith? I think it was. The pursuer gave his evidence very frankly, and I see no reason to doubt it. His ploughmen and others, who constantly saw the horse, have been examined. None of them ever saw it lame, and no one ever told the pursuer that it was lame. It had, it is true, been treated by Mr. Campbell in August, 1910. On that occasion the horse was apparently suffering from a sprained shoulder. It was lame for a short time, but completely recovered, and Mr. Campbell says distinctly that the fact that it was then lame for a short time did not prevent the pursuer in May last from warranting it in good faith as sound so far as known. Accordingly, I hold that the warranty of sound, so far as known, was true, and was given in good faith.

The horse thus warranted was bought by the defender. After the sale the defender explained to the pursuer that he was entering into possession of Marshfield farm at the term, and asked the pursuer to keep the horse till the horse till then. The pursuer agreed to do so and took the horse back from Diamonds Laggan to his farm at Parton Mill. The defender having heard that the horse was lame wrote to the pursuer on Monday, 22nd May, to inform him that if this was so he would refuse to take it. This letter the pursuer says he received on 24th May. He did not reply to it, and though he saw the defender he did not speak to him—not from any disinclination to do so, but because he had, as he explains, other business to attend to. On Saturday, 27th, however, the defender went to Parton Mill. They discussed the matter, and resumed their discussion on Monday, 29th May, at Castle Douglas. They then agreed to refer the dispute to Mr. Campbell, and abide by his decision. The pursuer, however, says that the dispute between them was simply whether the horse was "lame." The defender said that the dispute was whether the horse was "sound."

Now the defender cannot possibly contend that he has proved that the question of the soundness was referred to Mr. Campbell, because both the pursuer and Mr. Campbell say that lameness was the sole subject of the reference. Accordingly, if the defender's statement that he only agreed to the reference if the soundness of the animal was to be decided by Mr. Campbell has to be accepted, it follows that the parties not having agreed as to what was referred to Mr. Campbell. If this is so there was no reference to him at all, and the rights of parties fall to be decided as they stood immediately after the sale at Diamonds Laggan. If this view, however, has to be accepted, then the defender is necessarily out of court, and has no case, because, as I have already explained, in my opinion the warranty of sound, so far as known, given by the pursuer was given by him in good faith, and was true.

But I think the cause ought to be decided on the assumption that the question referred to Mr. Campbell was simply whether the horse was lame. This, at any rate, is the question Mr. Campbell understood he had got to decide. The defender may be correct in stating that it is very unusual for a vet. to examine a horse for lameness alone, as, of course, anyone who knows about horses can find out whether a horse is lame, and Mr. Campbell admits that he does not think that he ever

granted a certificate for lameness alone before. But in this case, as there was nothing else ever said to be wrong with this horse except lameness, there seems no reason why this question alone might not be referred to a professional man. And I hold that it was. It was, of course, a verbal reference. Mr. Campbell agreed to act and tested the horse for lameness about midday on Tuesday, 30th May. He then found that the horse was not lame.

Questions were asked as to the tests Mr. Campbell supplied. But such questions are clearly irrelevant. It is quite immaterial how Mr. Campbell made up his mind. He was the sole judge as to what tests he would apply. But when he had made up his mind and told the parties what his decision was there was an end to the matter. An arbiter acting under an ordinary reference—for instance, a reference under a deed of submission—can recall any award and alter it until the moment that it has actually left the hands of the clerk to the reference (*Macrae v. Edinburgh St. Tramway Co.*, 13 R per Lord Shand, 270-271). This means that up to the moment when the parties to a reference have been informed by the clerk what the arbiter has decided, he is free to alter his decision. But after the clerk has informed the parties what the arbiter has decided, the arbiter cannot alter his decision. Mr. Campbell, of course, had no clerk, but he had similar rights. He could alter his opinion, or withhold it, or retest the horse or do anything he liked until he informed the parties or their representatives what his decision was. After he had done so he could not change his mind. In this case Mr. Campbell informed M'Gaw, the pursuer's servant, who had brought the horse from Parton Mill to Marchfield, that it was not lame. M'Gaw accordingly left it at Marchfield, returned to Parton Mill, and so informed the pursuer, who then considered that the matter was at an end. Mr. Campbell himself, after leaving Marchfield, went straight to the defender to tell him the result of the examination. He says "I told him the horse was trotting perfectly sound." This, I hold, ended the matter. Mr. Campbell could not after this alter his opinion, and the parties were bound by his opinion.

No doubt this was a very informal reference, but there must be some point of time when it can be said that the question is decided. That moment must be the time when the parties or their representatives are informed what the decision is. If I am right in this, there is an end of the case.

Mr. Campbell's second visit on the 30th, when he found the horse was lame "of-near fore hoof-head," was made at the defender's request, and after he had decided the question referred to him by the pursuer and defender. What he then found cannot affect the rights of parties. Evidence has been led as to the cause of the lameness. Strictly speaking, such evidence had nothing to do with the question in dispute. Whether the horse was lame from ringbone, or because its hoof was injured is immaterial. The only question when Mr. Campbell examined the horse, was whether it was lame at that moment. Accordingly, if I had held that the opinion Mr. Campbell gave on his second visit—namely, that the horse was then lame—was binding on the parties, the defender would have succeeded. Even if the pursuer had proved conclusively that the cause of the lameness was due to some injury to its hoof which the horse may have received after leaving Parton Mill, such as by kicking it against the side of the loose box at Marchfield or in some other way, the defender would have been entitled to found on Mr. Campbell's decision and refuse to take it. I, however, accept Mr. Campbell's opinion, supported as it is by the high authority of Principal McCall, that the cause of the lameness was ringbone. Mr. George Nicholson does not really differ. He says, "I cannot say that I examined for ringbone." He saw a bruise above the

coronet of the near fore leg, which accounted for the temporary lameness which he saw. There were thus two causes of lameness. The latter has fortunately now disappeared. Perhaps the former will also disappear. Finally, although one may have some sympathy with the defender, still it is clear that he has got what he intended to buy, namely, a horse that was sound so far as the pursuer knew.

(Intd.). L. T. N.

Dumfries and Galloway Courier and Herald.

Complimentary Dinner to Prof. Mettam.

A very successful dinner was held in the Dolphin Hotel, on Saturday evening, Dec. 9. It was given by the students and staff of the Royal Veterinary College of Ireland to their Principal, Prof. Mettam, B.Sc., M.R.C.V.S. to mark the occasion of his election to the Presidency of the Royal College of Veterinary Surgeons. The staff were represented by Prof. Craig, M.R.C.V.S., in the chair, Prof. O'Connor, M.R.C.V.S., Mr. H. W. Carbury, M.R.C.V.S. and Mr. G. Haines, Registrar. The Board of Governors were represented by Sir C. J. Nixon, Bt. M.D., President, Col. Moore, P.V.O. in Ireland, Mr. J. V. Daly, M.R.C.V.S., and Mr. F. C. Mason, M.R.C.V.S. There were also present Messrs. J. B. Dunlop, A. Watson, Municipal Veterinary Officer; J. H. Carter, London delegate for the Examinations; and his son, L. M. Magee, M. Darby, and a representative gathering of students in the College.

Apologies for non-attendance were received from Prof. Dunne, F.R.C.V.S., and Finlay Kerr, M.R.C.V.S., and others.

The toast of "The King" having been honoured the Chairman called on Mr. Walsh to propose the toast of the evening, that of Prof. Mettam.

Mr. W. P. WALSH, in the course of his remarks made reference to the all-round sportsmanship of the Principal, in not only looking with a keen eye to their interests as students, but also to their pastimes, and did all that was humanly possible to encourage both sides of their college career; and even after their leaving the College as qualified veterinary surgeons this interest was maintained, and help freely given whenever it would benefit them. When proposing the toast Mr. Walsh wished to include the name of Mrs. Mettam who also took great interest in the students' well-being and so generously helped them on many occasions, especially when they had the entertaining of the football team from the London College during their visit to Dublin.

Mr. A. O'NEILL ably supported Mr. Walsh's proposal of the toast and endorsed his words. The toast was then drunk with acclamation, the entire company present joining in singing "For he's a jolly good fellow."

Prof. METTAM, in his reply, expressed his great pleasure and pride in being invited to the dinner by his students and told of his surprise and great gratification when he was unanimously elected as President of the Royal College of Veterinary Surgeons, and that Ireland was thus, through him, honoured for the first time by having a President elected who was resident in that country and head of their College. He then gave a brief *résumé* of the history of the Royal Veterinary College of Ireland, how about eleven years ago he had first entered on his duties with a small number of students who were taught in the glass houses at that time standing on the ground now occupied by the extensive buildings of the College, and stated that the success of the College was due, in no small measure, to the Board of Governors, who rendered every aid in their power and furthered every proposition that was advanced for the good of the students of the College. He also mentioned that the position of President of the Royal College of Veterinary Surgeons was no sinecure, as his occupancy of that

position had informed him, dealing, as the Council have to do, with the interests of the whole profession, in putting down quackery, passing Bills through Parliament, etc., and seeing that the profession met with its proper recognition in every quarter. But he regretted to state that they were sadly hampered by lack of funds, and he hoped that those present, whether already qualified or approaching that goal, would aid wherever possible in increasing the income of the Royal College of Veterinary Surgeons, which at present is not expenditure, and to uphold the honour of the profession in every way.

Mr. WATSON proposed "The Royal Veterinary College of Ireland." He paid tribute to the Principal, Board of Governors, and Staff of the College, who in such a short space of time had placed the College in such a sound position that it now took second place among the Veterinary Colleges in the British Isles, and its graduates were occupying prominent positions in all parts of the Empire, and he expressed the hope that the present students would also take equally good positions.

Sir CHRISTOPHER NIXON, Bart., who, as President of the R.C.V.I., replying on behalf of the College, expressed his pleasure in being present, and complimented Prof. Mettam on his work as Principal, stating that no one had contributed more than he to veterinary science. Sir C. J. Nixon mentioned that this College also is hampered by want of funds, but he looked forward confidently to its future when it would be on a good financial basis, backed by the Department of Agriculture, which he knew had its interests at heart and would do all they could to further its interests in this line.

Mr. J. J. G. KEPPEL proposed "The Army Veterinary Service," and coupled with it the name of Col. Moore, who, he said, had done so much for the students, particularly those in their final year, in giving them the advantage of inspecting the sick lines of the Remount Depot and Cavalry, also in having with expenditure of great trouble and time started in the College a contingent of the Officers' Training Corps, which had met with great success.

Colonel MOORE, in his reply, stated his pleasure in being invited to be present at the dinner, and that he would always take the greatest interest in the College. He would recommend students when qualified, if not entering the Army Veterinary Corps, to join the Special Reserve, as this would not interfere with their private practice, and in war time the number of qualified veterinary surgeons required would be about three times as great as that required in times of peace. The necessity of having trained officers ready to go on active service was very apparent, and by joining the Special Reserve the veterinary surgeon would be benefitting himself, and in times of urgency be of great service to his country. Col. Moore then gave a short account of the raising of the R.V.C.I. contingent of the Officers Training Corps, mentioning that it was the quickest measure to go through the War Office. He congratulated the College on being the first to start a contingent in this branch of the Service.

Mr. ESMONDE W. LITTLE proposed the toast of "The Royal College of Veterinary Surgeons," which was suitably replied to by Prof. Mettam as its President, and Mr. Carter, who said how pleased he was to be in Dublin on the occasion, and to be present at the dinner.

Mr. F. C. MASON proposed the toast of "The Chairman." Prof. Craig, in a short speech, expressed the hope that all the Members would stand together and fight for the interests of the profession in general and the Royal Veterinary College of Ireland in particular. The toast was received with acclamation and all joined in singing "For he's a jolly good fellow," after which the

assembled company united in singing "Auld Lang Syne," and the proceedings terminated.

Mr. E. W. Little, who with the aid of a small Committee arranged the entertainment, is to be complimented on its success.

REVIEW.

THE STANDARD CYCLOPEDIA OF MODERN AGRICULTURE AND RURAL ECONOMY. Edited by Prof. Sir ROBERT PATRICK WRIGHT, F.H.A.S., F.R.S.E. Volume XII. Tri Z. With Appendix. (The Gresham Publishing Co., 31 & 35, Southampton Street, Strand, London.)

The final issue of a cyclopedia is often the least important instalment of the series. The initial letters of some important agricultural subjects render the volume under notice an exception to this general rule, for it contains as much of interest and solid value as any of its predecessors. Several of the major articles are of prime moment to agriculturists. Perhaps the most important are those upon the Turnip, Wheat, Weeds, Wool (including the wool industry, wool statistics, and a long section upon the wool industry of Australasia), Weights and Measures, Water (including sections upon watering, the water requirements of animals and plants, water rights, and water supply), and Tuberculosis, the long article upon this subject is from the pen of an authority—Prof. Bang, of Copenhagen. Other subjects of more than minor importance include Ventilation, Woodlands and their management, the Wintering of cattle and sheep, and Winter manuring; while two articles of special interest survey the agriculture of Wales and the United States respectively. One short biographical notice, also, will interest members of our profession—that of the celebrated veterinarian Youatt. Of the breeds of animals dealt with, the most important are those special to Wales—black cattle, cobs and ponies, mountain sheep, pigs, and terriers—the Wensleydale sheep, the large White pig of Ulster, the Yorkshire coach-horse, the Wyandotte fowl, and the Trotting horse. Finally, the work concludes with a short appendix upon subjects which have arisen or developed since its commencement. These chiefly consist of recent legal enactments, such as the Agricultural Holdings Act (Scotland), and the latest additions to the legislation concerning Animal Contagious Disease; while there is also an interesting article tracing the continued development of the Sugar-beet movement.

All that we need say, in concluding this review of the final volume of the cyclopedia, is that the completed series amply sustains the opinion we formed when reviewing the first two volumes in 1908. This work is likely to be the standard popular cyclopedia upon agriculture for years to come. Hardly any agriculturist can afford to do without it, and, while it naturally will not enlighten a veterinary surgeon regarding subjects strictly veterinary, yet every member of our profession, especially if practising in the country, will find that it contains much matter not only interesting, but also of more or less direct bearing upon his work.

College Crest Defence Fund.

Amount already acknowledged	£19 9 6
Lancashire V.M.A.	2 2 0
Mr. Anthony McCarnick	1 1 0
W. Perryman	1 1 0
H. K. Roberts	10 6
	£54 4 0

H. A. WOODRUFF.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders			Sheep Scab.		Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	(including Farcy)		Counties Affected	Animals Attacked	Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported			Outbreaks	Animals.					
Gr. BRITAIN.													
Week ended Dec. 23	16		17				1	4			16	46	600
Corresponding week in	1910	32	36				3	5	London 1		30	38	520
	1909	28	36				7	13			38	32	295
	1908	28	34				15	40			31	26	708
Total for 51 weeks, 1911	885		1092		19	487	204	493	Warwick 3		408	2427	29814
Corresponding period in	1910	1435	1704	2	15	340	995				479	1527	14667
	1909	1294	1675			526	1739				662	1636	14300
	1908	1085	1398	3	112	779	2411				811	2040	14012

Board of Agriculture and Fisheries, Dec. 26, 1911.

Action by a V.S.

At Paignton County Court, Monday, Nov. 20, Mr. Fred P. Bennett, veterinary surgeon, sued Mr. Albert Marshall, also a veterinary surgeon, for a breach of agreement, and an injunction to restrain defendant from further committing a breach, the amount of the damage being placed in the particulars at £50.

Mr. Ernest Hutchings, of Torquay, was for the plaintiff, and stated that in 1906 Mr. Bennett purchased the practice from the defendant, an agreement being drawn up between the parties, under which the defendant agreed that for a period of twenty years he would not in any manner carry on the practice of a veterinary surgeon within a radius of 25 miles under a penalty. Quite recently the defendant had returned to the locality and had set up a place at Paignton, but resided at Dartmouth.

His Honour (Judge Lush Wilson, K.C.): Do you claim the penalty?

Mr. Hutchings; No; we want an injunction to stop the defendant.

Defendant said he had been practising in the neighbourhood for many years.

The Judge, after reading the agreement, said there was absolutely no answer to it. The defendant had been paid a lump sum—and a very fair sum—for the practice, and had broken his side of the contract. The injunction would be granted.

Mr. Hutchings intimated that his client would not ask for damages.

The injunction was granted with costs.

Personal.

The Joint Committee of the Glasgow Agricultural Society and the Clydesdale Horse Society have re-elected the bench of vets. which acted last year: Principal McCall, Mr. Andrew Robb, and Mr. William Logan. They will examine all horses competing for the Cawdor Cup, the Brydon Challenge Shield, and the district premiums of the Glasgow Agricultural Society.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Dec. 22

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Cadet Sergt. A. C. Duncan, from the Royal Agricultural College, O.T.C., to be Lieut. Dated Dec. 23.

OBITUARY.

STANLEY CARLESS, M.R.C.V.S., C.V.D., India.

Graduated, Lond: July, 1906.

A very wide circle of relatives and friends have learnt with deep regret of the death of Mr. Stanley Carless, formerly of Worcester, which occurred on Saturday. He was riding in a hurdle race at Lahore, when his horse fell, and he was thrown with such violence as to sustain injuries which proved fatal. The sad news arrived by cable when preparations for Christmas were in evidence on every hand, and general expressions of sympathy were heard as the circumstances became known to the citizens.

The deceased gentleman was the eldest son of Mr. W. S. Carless, M.R.C.V.S., of the Butts, and Eastbourne Lodge, Britannia Square. He had held a position as veterinary surgeon in the Indian Civil Service for four years, and had an excellent prospect before him. He had assisted his father in practice in this county, and was well known in the hunting field and as an all-round good sportsman before going to India. He was a first rate horseman, and this time last year won the Lahore Grand National. Mr. Carless was only 28 years of age.

CORRESPONDENCE

THE EXPERT WITNESS.

Sir,

A careful perusal of Col. Blenkinsop's excellent paper on the above subject leads one to wish that his suggestions could be adopted in medico-legal cases. Unfortunately, however, the subject matter of the paper presents things as they ought to be, not as they are. Having had considerable experience in law cases of various kinds, both in the lower and in the higher courts, my opinion is that it will take many years before the happy state of affairs depicted by Col. Blenkinsop comes to pass. When the veterinary expert for the plaintiff is found consulting with the veterinary expert for the defendant in High Court cases, then we may expect to find the opposing counsel adopting a similar plan of campaign.

It is a well known fact that without the assistance of the veterinary expert a counsel could not conduct a horse case. No doubt if the professional witnesses on each side conformed to the ideal suggested by Col. Blenkinsop, then indeed such instruction of counsel would not be so necessary. But in the majority of cases experts will be found

who will give the most dogmatic, and often extraordinary evidence, and it is with a view to upsetting such evidence that experts on the opposite side must instruct the counsel. And in such instances the expert must "take sides" and work up the case so far as the veterinary evidence is concerned. It is not correct to assert that he cannot perform this function without sacrificing his honesty, or swearing falsely. The time to consider the proper course of action is at the commencement of the case when the facts are laid before him; if he finds that he cannot conscientiously and honestly give the necessary evidence he should say so and retire from the case. Of course I am referring to questions of opinion and not to questions of fact.

There are very few horse cases in which a substantial defence is not possible, and in a large number of instances it is difficult to state which side holds the bulk of justice and truth. This is exemplified by the manner in which verdicts are set aside when cases are taken to higher courts.

The function of an expert is not confined to giving evidence; indeed, in the majority of instances his chief importance consists in instructing counsel so as to enable the latter to cross-examine the experts on the other side and to test the veracity of their evidence. Is there anything derogatory in this? I fail to see it. If we err in this respect we do so in good company. Look through the professional journals and see the important law cases recorded from time to time, and it will be found that counsel have been instructed, and well instructed, by some of the leading lights of the profession.

Much has been said with reference to the evidence tendered by veterinary experts and the marked difference of opinion that exists in this direction. But peruse the evidence in ordinary law cases where actions for personal injuries are brought against railway companies, etc., or under the Employers' Liability Act, and what do we find? One expert giving diametrically opposite evidence to another. In the important cases medical men of the highest eminence are found on opposite sides, still no one comments on the extraordinary conflict of evidence.

I listened to the evidence in one case, in which a policeman was claiming damages for injuries sustained during a riot. Two surgeons swore that the man would be lame for life from an injury to his knee, while one appearing on the opposite side swore that he examined the man that morning, and there was nothing wrong with the knee! Even with the aid of radiography differences of opinion occur as to the existence, or otherwise, of a fracture, and the most extraordinary conflict of evidence is observed in some of these cases.

In an important case tried a short time ago, one of the jurymen asked the judge if an opinion could be formed by estimating the number of experts on each side. The judge informed him that, provided one had money enough, he could command such a number of experts on his side in London as would swamp the other side.

Now, if with the facilities in diagnosis possessed by medical men they differ in opinion on what would appear to be facts, how much more likely is it for veterinary surgeons to also differ. In many of the matters on which the veterinary expert is called to give evidence, it is impossible to say which opinion is the correct one. Take the question of "coarse hocks" and spavin. Who can decide, provided the horse goes sound and has good hock action, unless, indeed, the animal in dispute is destroyed and the hocks examined; then it is easy to give a correct opinion. Yet a horse case of very large dimensions may at any time crop up on what would be regarded by the public as a simple question.

Again, may not the so-called "false ring-bone" be the starting point of a true ringbone, at least in some instances? Do these "false" ringbones ever cause lameness?

Is there not ample room for difference of opinion with reference to the presence or absence of navicular disease? In many cases either time or a post-mortem examination will be necessary in order to prove whose opinion is correct. Unfortunately these factors cannot be made use of when the case is a medico-legal one.

No doubt in time veterinary surgeons will learn to be less dogmatic in their opinions on matters of this kind, and also will appreciate that certain nervous and respiratory

diseases may be intermittent in their development. But so long as the present dogmatism exists experts will be necessary in law cases, and will be of vital importance to the conduct of such cases.

It is possible that in the future the human race may arrive at so civilised a state and become so honest and conscientious that law cases will be few and far between, and disputes will be amicably settled without recourse to the Law Courts. But until that Utopian stage is reached, lawyers and experts will flourish, and the latter will be found indispensable to the former.

Does the expert desire that his client should win the case? Most certainly, if it was not a genuine case then indeed the expert would be ill-advised to have anything to do with it. But provided there is room for honest difference of opinion, the expert is fully justified in instructing counsel, and attending consultations of counsel on behalf of his client. He is well paid for his services—or at least it is his own fault if he does not demand and receive a substantial fee.

Personally, I enjoy an important horse case, provided I do not figure as the defendant in same, and that I have intelligent counsel to deal with, and an honest and liberal client. More especially does such a case give pleasure when the experts on the other side are of the Sir Oracle type, and exhibit a spirit of dogmatism which is out of all proportion to their knowledge of professional matters, as elicited by cross-examination.—Yours, etc.,

"LATITAT."

VOMITION IN THE HORSE.

Sir,

The short account recorded by Mr. Hamilton Kirk last week of manifestations of this unusual symptom in the horse, brings to my mind the first occasion I witnessed it, now many years ago. It was at our local Steeplechase Meeting where one of the horses had fallen heavily upon landing over a drop fence. Upon making a careful examination soon afterwards the only alarming symptom was occasional spasmodic contraction of the cervical muscular, accompanied by a discharge of ingesta from both nostrils. Having been taught by teachers and text-books that vomition was a diagnostic symptom of serious abdominal lesion—probably ruptured stomach, I, of course, prognosed most unfavourably, but to my surprise the animal very soon recovered. I witnessed the condition many times when in South Africa, generally as a result of heavy falls, some ending fatally and others making quick recovery. Although in charge of three shiploads of horses for the Boer war, during one of which many of the animals got terribly knocked about, I have not witnessed the symptom at sea.

THOS. A. HURAND.

Kingsdown, Sevenoaks.

HOW LONG CAN A HORSE REMAIN UNDER WATER?

Sir,

I was coming in a train about two months ago from the Argentine to Valparaiso, and the course of the line is that of the Acoucagua river. It is two miles wide when the snows are melting, but at times is merely rivulets. The bed is composed of large stones, on the underside of which grows a species of riverweed. The native horses are very fond of this, and the natives turn them out to feed on it. The depth of the water on this occasion was about 50 centimetres, and the horses were feeding with their heads completely immersed. We watched them for some time and decided to time them how long they could keep their heads under water. The best times are as follows:

4 minutes	35 seconds
4 "	2 "
3 "	32 "

All these times were taken with a Benson chronometer. I am assured it is no uncommon thing for a mare to foal in the river, but until I see one I shall refrain from writing on the subject, nevertheless it is a fact the horses of the Acoucagua valley live a semi-aquatic life.

WM. J. MOODY, F.R.C.V.S.

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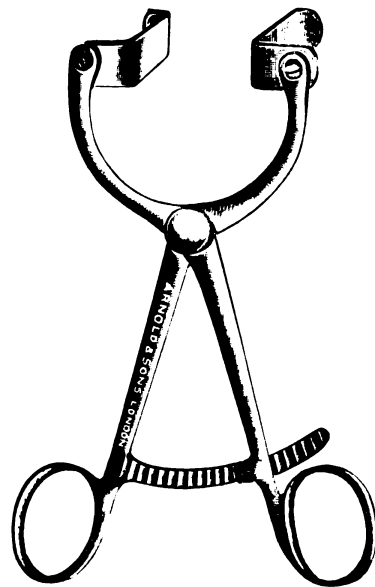
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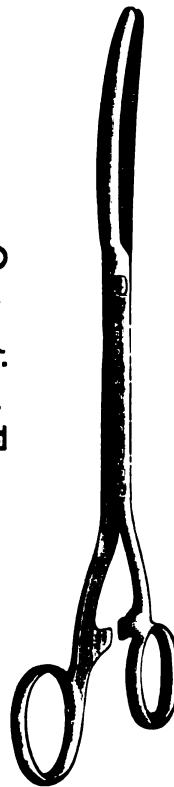


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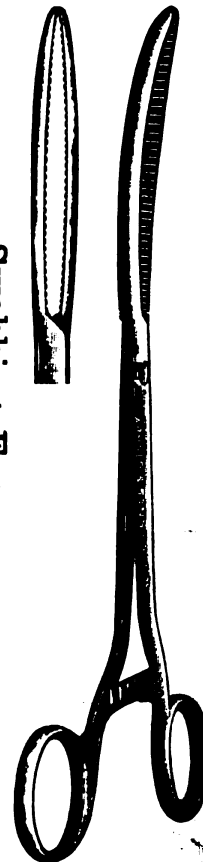


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The President and Members of Council of the Fund venture at this season to appeal to the Members of the Veterinary Profession to become **Subscribers of at least Ten shillings and sixpence Annually** to their fund. This sum entitles membership.

The object of this Society is to afford financial assistance to necessitous and deserving Members of the Royal College of Veterinary Surgeons, and to widows and children of deceased Members of the Profession who may be in poverty. The following are some of the persons who are now receiving grants:—

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And other cases; entailing an expenditure of £150 a year, with only an income of £113 from annual subscriptions. At the next Quarterly Meeting of the Council at least six further applications for relief will be considered, and it is earnestly hoped that sufficient additional funds will be forthcoming to alleviate distress through the winter season.

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Subscriptions should be sent to the Hon. Secretary and Treasurer,
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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE INTERNATIONAL VETERINARY CONGRESS.

Mr. Stewart Stockman, the secretary of the Organising Committee, has issued a notice calling a meeting to report progress. This Committee at present confines its attention to the collection of funds, and a heavy task they have. The Congress will not be held in London till 1914, but it was thought that many men might give a subscription annually, which would total an amount before the meeting in excess of any sum payable at one time. Some few handsome donations have already been made. A number of annual subscriptions are promised, and most of the Veterinary Societies are giving help. Although membership of the Organising Committee is not limited to subscribers of ten guineas, anyone who chooses to subscribe that sum automatically becomes a member. Gentlemen desirous of contributing, or of joining the Committee, should communicate with either the secretary, Mr. Stockman, or the treasurer, Mr. Garnett.

THE ROYAL VETERINARY COLLEGE.

Every one knows that there has been a falling off in the number of students joining veterinary schools. Probably we have now reached bottom, and pupils will gradually increase in numbers. We make this anticipation not from merely a lively optimism but because there are even now openings for veterinary surgeons in excess of efficient men to enter them.

In the meantime Veterinary Schools suffer financially, and the oldest of the schools has been hard hit. On another page we reprint from *The Times* a long article pleading for Government aid. The arguments of the writer seem to us weighty and clear—in fact unanswerable. What the veterinary profession has returned to the public for the voluntary contributions and the State assistance which enabled veterinary science to make a beginning, more than repays any debt we incurred. There are still diseases to conquer, still researches to make, and any check upon veterinary progress would now be a drag upon preventive medicine.

We sincerely hope that *The Times* article will attract wide attention, and that the Royal Veterinary College will receive the Government help it needs and deserves. It seems curious that while "Retreats for Aged Animals," "Sanatoria for Cats," "Dumb Creatures Associations," etc., can collect what money they want, the Royal Veterinary College never receives a legacy, but is expected to provide every subscriber of two guineas with three

guineas worth of advice and material. The College has been too modest. It must follow the example of the Hospitals, and make its appeals to the public loudly and incessantly.

THE MALLEIN TEST AND ITS "VAGARIES."

By H. G. SIMPSON, F.R.C.V.S.

So much has been written on the subject of Glanders and the Mallein Test, and so ably and exhaustively has it been propounded by many eminent professional men that it would appear incongruous and superfluous to add to or detract from what appear unquestionable conclusions. I venture to think, however, that a discussion on what might be termed its "vagaries" may prove interesting to some who have been inclined to pin their faith to a hard and fast rule in diagnosis. Very few will question the obvious character of the symptoms produced in a definite reactor, and nobody is likely to make a mistake in a non-reactor, but the cases I wish to draw attention to are those in which either or both the thermal and local disturbances are of such a character as to leave a doubt whether one might safely give an opinion on the result of two testings, as they often require to at present.

I have been fortunate, inasmuch as I have been enabled to keep under close observation several horses that might be described as the "tail end" of an outbreak of glanders—horses which were included in an official County Council test and which (under present regulations) after the second test had to be pronounced free or infected upon the reading of the mallein test. These are the horses which I think any veterinary inspector will agree cause him many pangs and heart burnings.

As the position stands at present, should an inspector be in doubt as to the reading of the first test, the horse is very properly put aside for a further test, but no further official opportunity of watching a suspicious horse is *legally* afforded an inspector after his second test—at the expiration of that period he has to say definitely "passed" or "condemned" and the horse is lost sight of afterwards. Should he condemn the horse on a *suspicious* but not definite reaction and the post-mortem reveal no glanderous lesion, his Council through his act become liable for full compensation, and the test is possibly held up to ridicule as unreliable. On the other hand should he pass the animal and the horse show evidence of the disease later on, suspicion is cast on his judgment, and horse-owners will again comment severely on the supposed infallibility of the mallein

test. The majority of horseowners are in favour of the test, and even when the "official" supervision of a stud had ceased after the second test, if the inspector communicates to them his suspicions of certain horses, they will, in their own interests isolate and keep these animals under observation till a more definite opinion can be arrived at. There is, however, no power over the unscrupulous owner, who is at liberty to distribute suspicious horses broadcast and possibly create fresh centres of infection. If glanders is to be eradicated (and there is no reason why it should not be) veterinary inspectors must be granted increased powers in dealing with "suspicious" horses.

In a small way to demonstrate the necessity of a proper supervision on "suspects," I will quote three cases:

No. 1. Bay Mare (23). Tested twice by Council, and after a *suspicious but indefinite* reaction passed out of official control; was sent to an isolation depot and became "clinical" within a month.

No. 2. Roan Mare (2875). Tested officially twice, and after a *suspicious but indefinite* reaction passed out of official control; was sent to an isolation depot and became "clinical" in ten days.

No. 3. Roan Mare (2959). Tested four times under Inspector "A," and after a last suspicious reaction removed to isolation depot in Inspector "B's" district, who condemned her on his second test with an indefinite reaction; her post-mortem showed glanders.

In the above, the first two cases became "clinical," one within a month and the other within ten days of having given indefinite final reactions—and here comes in the hardship to horseowners. Two working animals valued at £40 apiece at last test would have reimbursed their owners to the extent of half their valuation, whereas the result of the final test being still indefinite and insufficient to warrant the Local Authority risking the chance of having to pay full value at the time, they become what are commonly known as "forty bobbars" shortly afterwards, the expense then falling on the owners. Apart from this there was the chance of their creating fresh centres of infection, as the Local Authority had no *legal* control over them, and it was discovered on post-mortem that Case 1 had lesions in the trachea. Case 3 is one that theoretically might have cast reflections on the inspector who in the first place lost legal control over her in her first testings. As the second test was not conclusive she passed out of the control of Inspector "A"—she was condemned by Inspector "B" (into whose district she was moved) after two subsequent testings by him, both of which were indefinite, her condemnation ultimately being decided chiefly on perusing the suspicious but indefinite character of no less than six previous testings, none of which were sufficiently characteristic to condemn upon under the present regulations.

We require legislation to have power of control over any "suspicious" animal, but it must be of such a kind that it will not irritate or disorganise working efficiency. It will require the co-operation of owners to render it efficient—this will un-

doubtedly be forthcoming if it can be demonstrated that the scheme is beneficial to both sides.

In my opinion "indefinite reactors" should be scheduled by the local authority and tested at as short intervals as is practicable by inspectors. They should as far as possible be stabled apart from other horses and worked together; should it become necessary to remove them to another district under the same ownership the veterinary inspector of that district should be advised, and he will continue the observation. Should the animal be a good worker, the owner will not desire to part with him, and he will probably remain with him till he is "cast" or dies, or possibly breaks down and becomes "clinical," thus the official observation should not be onerous. Should a firm object to have "suspicious" horses in their stud, and prefer to decide "yes" or "no" on the second test, it should be possible to have a scheme whereby in the agreement of the parties concerned the animal should be slaughtered (provided the inspector cannot say "non-reactor free"). In such a case, should the post-mortem reveal glanders, the usual half value compensation will be paid; but should there be no evidence of glanders, it is unreasonable to expect the local authority to defray the whole of the value, but half-value should be paid, and a scheme devised by which the cost of the remaining half-value could be borne partly by the owner and partly by the local authority, *e.g.*, supposing the value to be £40, and the post-mortem show no glanders, the owner should receive £30, in which case the owner and the local authority share the loss. Should a "suspect" become "clinical" while under observation he should be treated as a reactor and half-value compensation allowed. It is possible that this last eventuality would not often occur, as in the event of a scheme of sharing the value of indefinite reactors after the second test being agreed to, many owners would prefer to slaughter their suspects and so ensure a "clean" stud.

THE RELATIVE SIGNIFICANCE OF THE LOCAL AND THERMAL DISTURBANCE.

The question has been raised as to whether the thermal or the local manifestation is most to be relied on as indicating a reaction? Although it is agreed that the "typical" reaction is, of course, a combination of both, yet the opinions of many are divided, some being guided by a partiality for thermal and others for local degrees of disturbance in a questionable reaction. Speaking for myself (and, of course, admitting the "typical" reaction) I confess that I incline more to a partiality for certain characters of the local manifestation in doubtful cases. I base my inclination chiefly on the results of observation from just over 2,000 applications of the test during the last eighteen months, and from which I have drawn the cases enumerated in the attached tables. It may be said that the fact in many cases of my gauging the temperature from the 12th hour after inoculation and not the 9th is insufficient evidence to cast reflections on thermal disturbance, but this has been done chiefly owing to circumstances compelling the test to be employed

at such times as the horses could be spared, and where it was at great inconvenience, to ascertain the 9th hour temperature in a large batch of tests. In any case where the temperature has manifested any indication, it has been credited with it. In many cases no temperature disturbance was manifested till the 12th, and even the 18th hour after inoculation in cases where the 9th hour temperature was taken.

No doubt there are many circumstances affecting an animal which predisposes to irregularities in temperature, and perhaps not the least of these is that of subjecting a horse (whose ordinary daily routine is probably between the shafts the best part of the day) to a 48 hours, and perhaps longer detention to the stable, as is often the case under the mallein test. For one thing he misses his stable companions alongside him, and hearing the noise of every day work outside, he frets himself. Although he may be quiet for a portion of the time, the majority of it is spent in "pawing" and moving restlessly about his stall. These moments of excitement are when one might expect to find an irregularity in an otherwise normal temperature record. Although perhaps under ordinary circumstance this fluctuation of temperature might not be noticed at a period during which an animal is under the test, it is worthy of considerable attention when the elevation or depression of a degree in the reading weighs heavily in the balance of deciding as to a negative, positive, or suspicious reaction, especially so when it has not been possible to take a normal temperature on two successive days preceding the test.

The effect of mallein on a healthy horse's temperature being *nil*, and the admitted effect on a glandered horse being a gradual rise, these awkward "jumps and falls" which are often experienced might in a measure be attributable to conditions extraneous to those of mallein injection. There is, however, no gainsaying the fact that the same horse may exhibit the same vagaries of temperature under the mallein test when his conditions and surroundings are more congenial to him.

A glance at the following tables will show that these vagaries are present in animals which on post-mortem revealed glanderous lesions in one or other of their stages, and will also show that they were present in animals which on post-mortem showed apparently no glanderous lesions, but there were present pneumonic or other organic conditions which may, or may not have been responsible.

In any case, I have not come across the post-mortem of a horse showing these vagaries during life in which I could detect on post-mortem no departure from the normal in some organ. Of all organs, the lung was that which most frequently showed the more extensive structural alteration. My experience has been that the injection of mallein into a (to all intents and purposes) healthy horse produces no effects either locally, thermally, or constitutionally; but this same experience has led me to the belief that the injection of mallein into an *apparently* healthy horse may at times give rise to symptoms which, although they cannot be con-

strued as a "reaction," yet produce conditions which are abnormal and point to the existence in the body of some lesion other than glanders to which the injection of mallein is antagonistic. This, of course, raises the very wide question of whether mallein can be utilised for the purpose of diagnosing other diseased conditions than glanders?

THE RELATION BETWEEN LOCAL AND THERMAL REACTIONS AND THE NUMBER AND AGE OF THE LESIONS FOUND ON POST-MORTEM.

As regards the scarcity or number of the lesions present I have ascertained no relation between these and the intensity or otherwise of the reaction produced; a practically mild reaction has often revealed on post-mortem a very heavy pulmonary infection and *vice versa*. If any relation does exist, I should be more inclined to advocate that the relationship is between the age of the lesions and the temperature reaction. I am inclined to believe that chronic lesions are less liable to produce a temperature reaction than recent ones, and that recent pulmonary lesions will tend rather to produce a temperature disturbance. In cases which on post-mortem revealed mixed chronic and recent lesions, and under observation for from 4 to 12 months (G.H. 2,657, R.M. 2,436, B.H. 3,255, and B.M. 31) it was noticed that in the first two or three tests practically no temperature disturbance was noticed and suspicion was only aroused by the "locals," whereas in the later tests, possibly owing to recent lesions making their presence felt, the temperature was more or less disturbed. This assumption of relationship is, however, modified in the case of B.H. 2,696, whose lesions were entirely chronic, and who on his last test at the expiry of 12 months showed a temperature reaction, and also to a lesser extent in the case of B.M. 3045.

As is the case with tuberculin, it is possible in chronic cases, no doubt, for the lesions to be apparently proof against the action of mallein, but one would expect this resistance to be constant unless there was definite evidence on post-mortem of the existence of more recent lesions to account for suspicious reactions. The cases, however, of B.H. 2696, in which there was no sort of suspicious reaction 2 months after a suspicious one, followed by a suspicious one 3 months later, and a practically good one 6 months following; and R.M. 2360 who, following a suspicious reaction, gave, after respectively 3 months and 2 weeks, no sign of suspicion, followed 6 months later by a typical "local"; and Ch.M. 2735, who, following a suspicious reaction, gave after respectively 2 months, 3 months, and 2 weeks, no reaction whatever, followed six months later by a typical local, and in whose cases the post-mortem revealed only chronic lesions and healed scars, would appear to somewhat negative an assumption that old chronic lesions do not respond to mallein, or might suggest that the presence of healed scars pointed to the theory that successive injections of mallein tend to exert a curative effect. At the same time, it is a little difficult to account for what one might de-

scribe as a "passive period" of 2 or 6 months in a case of indefinite reactions—a condition which can hardly be ascribed to a "tolerance" of the system for mallein.

It may be argued that these old chronic cases showing no clinical symptoms are not to be dreaded, inasmuch as they are not very liable to break down and may work for years provided they do not become re-infected, and that therefore any tendency for mallein in their case to show no reaction is not of the greatest importance. I have in mind at present at least one post-mortem which I made showing very chronic lesions, most of them calcareous, and others surrounded with a semi-fibrous capsule, with the deep lung tissue surrounding these lesions showing signs of disintegration; around this area there was a crop of recent nodules, and I am bound to say that, owing principally to the position of the recent lesions, I formed the opinion that this was not a new infection, but due to a breakdown of a portion of the chronic lesions liberating B. mallei which they enveloped.

IRREGULARITIES OF THE LOCAL MANIFESTATION.

One sometimes hears the remark "a typical local reaction," but it is at times difficult to associate a specific characteristic to the swelling of a reactor, unless it be a degree of tenderness—the contour and size varying considerably, and at times assuming an almost atypical appearance. I am of opinion that the chief characters of a positive local reaction are embodied more in the degree of pain and persistence present rather than in any specific size or conformation, although the latter often play an important part in diagnosis. I have become accustomed to describe my local manifestations under certain headings, according to the various contours and characteristics they assume, and I group them as follows:—

- | | | |
|-----------------|----------------|------------|
| (1) "Bun-like") | Painful |) Deferred |
| (2) Diffuse | Non-painful | |
| (3) Generalised | Persistent |) Double |
| (4) Elongated | Non-persistent | |
| (5) Corded | | |

Whilst all the above are associated with reactors accompanied by pain and persistence, the most commonly occurring are the first three.

The "bun-like" reaction, when it appears, I should describe as the one more generally inclined to be characteristic; assuming the appearance of a piece of dough having been taken in the hand and thrown forcibly on the neck and adhering to the place it strikes. Its shape is circular, and its circumference sharply defined, the cutis is stretched tensely over it, and it has a marked and prominent appearance.

The "diffuse" swelling is one that is frequently met with and partakes more of the nature of an inflammatory slight thickening of the skin and subcutaneous tissues adjacent to the centre of inoculation; there is nothing definite about its shape or size, and it has no prominent appearance. To a casual observer there is not much to be seen, but palpation reveals a very decided feeling of "thickness" more or less diffused: I observed this local

characteristic specially well marked in two indefinite reactors, which on post-mortem proved to be glandered (B.M. 527, and B.M. 2094), the former associated with very early lesions, and the latter with chronic one.

The "generalised" form I have only noticed associated with definitely reacting animals, and its character is very pronounced, especially as regards the manifestation of pain. From a very decided local reaction at the 12th hour the lesion extends more or less definitely up the neck almost to the ears on the affected side, and down and around the neck to the shoulder, and sometimes to the tissues posterior to the shoulder. The greatest sensation of pain is evinced with general constitutional depression. The animal starts away from an observer and groans even if the hand be raised without actually touching the part. When moved he does so with difficulty, and so to speak "all of a piece." Turning round affords him the greatest inconvenience, and in this form of progression the head is poked out and the animal has the appearance of a horse affected with tetanus. There is, of course, no question of "indefinite" reaction in such a case.

DEFERRED AND DOUBLE LOCAL REACTIONS.

These two forms are perhaps the most interesting of any local manifestations; the former certainly is rather dangerously interesting. I have observed them in both definite and indefinite reactors, one of the latter of which is still alive and has given no subsequent suspicious reaction of any sort. A close observation of horses under the mallein test will reveal the fact that the local disturbance varies very considerably in the time of its first appearance in a stud of horses; this period varying in some instances as much as from half-an-hour to three days, although, of course, the extremes are rare.

In some animals the introduction of 1 c.c. of mallein produces a slight prominence almost immediately, whilst in the majority nothing is observable after the finger is passed over the seat of inoculation to disperse the dose, but in some few cases I have observed that in the course of half-an-hour to an hour a large swelling two or three inches in diameter appears, which is quite dispersed in a couple of hours. I remember distinctly in a batch of a dozen horses I tested this swelling appeared as stated above, and the horse foreman came to me in great alarm to say that five horses had *already* started to react within half-an-hour; their temperature, however, showed no disturbance, and the enlargement had disappeared an hour afterwards, the animals subsequently passing the test. I do not know if others have had a similar experience, but it would be interesting to know if this is attributable in any way to the initial irritation produced locally by mallein in some horses, or whether it is the result of a needle injury to subcutaneous tissue. I may mention that I do not disinfect my needle after each injection, and have never experienced any ill effects in the way of local abscess formation from it.

In the case of reacting animals, the shortest period in which I was advised of an appreciable

local reaction was $3\frac{1}{2}$ hours, when it was observed to be about the size of a small walnut, accompanied by pain. The latest period in a reactor in which a "deferred" local appeared was (the case of B.M. 527, Table 1) the 3rd day, and this was observed on harnessing the mare; the post-mortem 11 days later, when the test was re-applied and a reaction obtained, showing a very recent infection.

"LUNGERS."

In a London stable in the past this condition has been a "curse" to horseowners; there is not much doubt that before the operation of the Glanders Order many chronic cases of pulmonary glanders were included under this heading. Under it would also be included gangrenous pneumonia where the lesions were of the moist and evil-smelling type. In addition to this, there is frequently found at present on post-mortem of animals which have been subjected to several applications of the test and passed, a condition of the lung which presents areas of necrotic lung tissue, more or less pronounced, in a "dry" form—either as shrivelled up lung tissue, caseous or calcareous material, or an area surrounded by a fibrous capsule. The question presenting itself is, what was the initial cause operating to produce this condition? Is it due to a previous localised attack of pneumonia or is it the result of an attack of glanders which has become cured either spontaneously or by the action of mallein on the lesions?

I think it will be found that the past few years show a decrease in the percentage of lungers; due no doubt to a better system of ventilation and management obtaining in stables, but also no doubt assisted by the operation of the Glanders Order.

To those inclining to a belief in the curative effect of mallein it would be interesting to be able to determine how many of these areas might be ascribed to previous ravages of the *Bacillus mallei*. A glance at Table 2 will show that the post-mortem of these animals showed no lesion which could be called "glanders," although suspicion was aroused at the time of testing by "vagaries," but the lesions discoverable in the majority of cases were such as would usually be classed under the heading of "Lungers." It is perhaps only a coincidence that certain horses giving suspicious reactions show a "lunger" post-mortem, but it is cause for thought whether lungers may not in some cases be detected by a suspicion on the mallein test, and whether these "lunger" post-mortems are not dead glanders lesions which, either by the curative action of mallein or a natural process, have lost their virulence and are beyond response to mallein—in other words that they are cases of glanders which have become cured.

SUMMARY.

(A) No. of horses after second test *legally* passing out of control of the Local Authority, but isolated and worked on suspicion:

2 became clinical within 1 month.

19 on p.m. showed glanders (Table 1).

7 on p.m. showed no glanders but "lunger" lesions (Table 2)

28

(B) Young horses entering which passed test on entry, but subsequently reacted and were found glandered (B.M. 527, Table 1)

1

(C) Period elapsing between detection of disease and slaughter of last suspicious horse, when application of test showed no reaction or suspicious horses remaining; 1 year, 9 months.

TABLE I.
Testing of Horses which on Post-mortem proved to be *Glandered*
showing "Vagaries" of Thermal and Local Reactions

Bay Mare 2632.

Date.	At Inoculation.	12th Hour.	18th Hour.	24th Hour.	36th Hour.	Local Reaction.
Mar. 27, '09.	99.6	102.6	102.4	102	101	A fair sized local, painful, and persistent.
May 7,	100.6	103.8	100.4	100.2	100	" " "
July 5,	100.8	100	100	100	—	No local reaction,
Oct. 16,	101	101	101	100	100.2	A good local, painful, disappeared 3rd day.
April 24, '10.	99.6	100.4	101	101	101	Smaller than any above, painful and persistent.

NOTE.—For typographical convenience, the fractions in the temperature columns are given in tenths instead of fifths.

Post-mortem. Several chronic pulmonary lesions, many breaking down; several recent ones around those breaking down.

Remarks.—The temperature was not taken into account in this case, but the local reaction is a curious one. The first two tests produced good typical local reactions; the next test is negative, the subsequent ones producing a non-persistent swelling, and a later *small* persistent one. It is curious that in view of the fact that this case showed glanders lesions in practically all its stages no appreciable temperature reaction was recorded, and the local reaction was disappointing as compared with others. It, however, indicates that the severity or otherwise of the mallein reaction is no guide to the time of existence of the lesions found.

Bay Mare 2681.

Date.	At inoculation.	12th Hour.	18th Hour.	24th Hour.	36th Hour.	Local Reaction.
May 8, '09.	99	100.8	102	102	102	Slight, painful, non-persistent.
July 5,	100.4	102	101.2	101	101	Large, painful, persistent from Sunday till Friday.
„ 11,	100	102	102.4	102.4	102	Large, painful, persistent, and a second swelling on the other side of neck at last week's inoculation.

Post-mortem. Many chronic nodules; no recent ones.

Remarks. This case was judged entirely on the local reaction. The last test was performed a week after the preceding one in which there had been a good local reaction on the near side persisting from Sunday till Friday; on the Saturday the injection was made on the off side of the neck, and by Sunday night there was not only a good local reaction on the off side, but a correspondingly good one at the seat of inoculation of the previous week—both swellings were large, hard, painful, and persistent. This case is interesting not only as showing that a horse may give a local reaction to a second dose of mallein within the space of a week, but that in some cases a double swelling may be produced.

Brown Mare 3045.

Date.	At inoculation.	12th Hour.	18th Hour.	24th Hour.	36th Hr.	Local Reaction.
May 8, '09.	101	100.8	101	101	101	Large, painful, persistent.
July 11,	100	103	103.4	103	103	„ „ „

Post-mortem. Many chronic lesions; no recent ones.

Remarks. This case was judged mainly on the local reaction, although the temperature of the last test also bore on the decision. From the character of the post-mortem lesions, they appeared considerably older than 2 months, and it is curious that no temperature reaction should have been recorded in the first test. From this one might say the local reaction is more dependable than the thermal as an aid to diagnosis.

Bay Horse 2751.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
May 8, '09	101.2	104.4	104	103	102	Large, painful, persistent.
July 11,	100	102.4	102	102	102	„ „ „

Post-mortem. A few chronic nodules; no recent ones.

Remarks. The local reaction was the principal guide in this case. The first testing showed a thermal disturbance which is not quite consistent with a reaction, viz., a high jump, with a gradual fall during the 36 hours. The second test shows no very appreciable temperature reaction.

Black Horse 3116.

Date.	At Inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
April 18, '09	101	103.4	104	102	102	Small, painful, non-persistent.
May 19,	100.8	101.6	103.4	103.2	102	Large, painful, persistent.
July 5,	100.2	104	104	102	102	„ „ „

Post-mortem. Many chronic nodules; no recent ones.

Remarks. This case would have been condemned on the first test, but the local reaction was very indefinite. The second test gave a good local and a very fair temperature elevation, he was, however, left for two months before deciding.

Bay Horse 2514.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
April 21, '09	101.2	103.4	104	103.4	103	Very slight, non-persistent.
May 18,	101.2	101.2	102.6	103.4	102.6	" "
July 12,	100.2	103.2	103	103	102.2	Large, painful, persistent.

Post-mortem. Many chronic nodules; no recent ones.

Remarks. In this case the local reaction played no part in two tests, the first of which showed a temperature reaction. The very decided local reaction at the last test decided the question, although the temperature was not as indicative as in the previous tests.

Bay Mare 31.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
July 25, '09	101	105	104	102	101.6	Large, painful, non-persistent
Oct. 16,	100	101	105	105	101	" persistent.

Post-mortem. Many recent nodules; no chronic ones.

Remarks. This case gave a very suspicious local reaction which, however, quickly dispersed, and this, in conjunction with a peculiar "falling" temperature, tended to the belief that it was not a reaction. The second test, with the exception of a sudden jump from the 12th to 18th hour in temperature, was typical. The lesions on post-mortem were very recent and the question is—if they would have been apparent on post-mortem at the time of the first test.

Bay Mare 2584.

Date.	At inoculation	12th hour.	18th hour.	24th hour.	36th hour.	Local reaction.
March 27, '09	100.4	105	102	101.8	101	Large, painful, persistent.
May 7,	100	102	102	102	102	" " "
July 11,	102	103	103.4	103	103	" " "

Post-mortem. Many chronic nodules; no recent ones.

Remarks. This case was practically judged by the local reaction which was a good one in each test, although almost entirely unsupported by temperature reaction on the first two occasions. The jump to 105 at the first test in the first 12 hours and subsequent fall to 102 six hours later is peculiar.

Bay Horse 2517.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction.
March 27, '09,	100.4	103.2	102.8	102	102	Large, painful, non-persistent
May 7,	100	102	102	102	102	" " "
July 11,	100.4	101.4	103.2	103	102	" " persistent.

Post-mortem. Many chronic nodules; no recent ones.

Remarks. The local reaction was the principle method of diagnosis in this case. In the first two tests they were unsatisfactory and unsupported by very definite thermal reaction. In the last the local was typical, and the temperature, although not very diagnostic, was better than the previous reading.

Bay Horse 3255.

Date	At inoculation.	12th hour	18th hour	24th hour	36th hour	Local Reaction.
May 8, '09	101.2	103.2	103	102	102	Large, painful, persistent.
July 11,	101.4	101	102.2	102	101.4	Very slight, non-persistent.
Sept. 25,	102.6	103.2	102	102	102	Large, painful, persistent.

Post-mortem. A mixed infection of chronic and recent nodules.

Remarks. In view of the good "locals" produced in the first and last tests, it is curious that no "local" appeared in the second test. The case was, however, decided on the local reaction.

Brown Mare 3237.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction.
March 27, '09,	102	103·4	103·8	102·8	102·6	Large, painful, non-persistent.
May 7,	103	104	104·4	103	102·4	" " "
July 5,	101·6	102·6	103·4	103·2	102	" " "
July 11,	100	102	102·6	102·6	102	" " persistent.

Post-mortem. Many old-standing nodules.

Remarks. The "local" in the last test was typical, but the temperature was more disappointing with each subsequent test after the second. The local, except in the last test, was not good enough to condemn on, it gradually disappeared within 36 hours.

Roan Mare 2436.

Date	At inoculation.	12th hour	18th hour	24th hour	36th hour	Local Reaction
July 17, '09	100	102	102	102	101	Large, painful, persistent.
Oct. 9,	100·6	102·4	103	102·4	101·6	Small, painful, non-persistent.
Oct. 23,	100·4	100·4	101	101	101	" " "
March 20, '10	101	102·2	103	103	101	Large, painful, dispersed 2nd day.
April 24,	100·6	103·8	103·8	102·8	101	Large, fairly painful, persistent.

Post-mortem. A few healed "scars"; no chronic, but a few recent sub-pleural nodules.

Remarks. Probably the presence of recent lesions was responsible for a more definite reaction in the two last tests. The local reaction in the first test was typical, but it was 9 months before it acknowledged the test again.

Chestnut Mare 2735.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
March 27, '09.	100	102·4	102·4	102	102	Large, painful, non-persistent.
May 8,	101·8	101·8	103	103	101	Small, non-painful, non-persistent
July 11,	100	100·4	99	100	100	Nil.
Oct. 9,	101	103	101	101	101	Nil.
Oct. 23,	99·2	100	100·4	100	100	Nil.
April 24, '10.	101·2	102	102	101·4	101·6	Large, painful, persistent.

Post-mortem. A few old-standing deeply seated nodules.

Remarks.—The temperature in this case is no guide; except for an attempt to rise at the second test with practically no local reaction, there was no indication of a thermal reaction. The case was decided solely on the local reaction of the last test. The peculiarity is that, after a suspicious local in the first, and an attempt at a thermal reaction at the second, absolutely no reaction is obtained in three subsequent inoculations, and after an interval of six months a typical "local" appears unsupported by a temperature reaction.

Roan Mare 2360.

Date.	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction.
July 11, '09.	100·2	100·4	101	101	101	Large, painful, non-persistent.
Oct. 9,	100·4	103·4	99	100	100	Nil.
" 23,	99·4	99·6	100·2	100		Nil.
Apr. 24, '10.	100·8	102·6	101·6	101·2		Large, painful, persistent.

Post-mortem. Several healed scars, a few chronic nodules; patches of gangrene both lungs.

Remarks.—This case is exactly similar to the preceding (2735).

Bay Horse 2696.

Date	At inoculation	12th hour	18th hour	24th hour	36 hour	Local Reaction
May 8, '09.	101.2	101.4	103	102.8	102	Large, painful, persistent.
July 11,	100	99.4	99.8	99		Nil.
Oct. 16,	100.6	100	103	102.4	102	Slight, painful, non-persistent.
Apl. 24, '10.	100.4	103.4	104	103.4	103	Small, long, painful, persistent.

Post-mortem. A very heavy chronic infection in large "clumps"; no recent nodules.

Remarks.—Except in the first test where it was unsupported by a thermal reaction, the local failed in characteristics. In the last test, although painful and persistent, it lacked the characteristic shape of the mallein reaction; it was long and narrow, with lymphatic cordings. Had it not been for the rise of temperature one might have been again undecided.

Grey Horse 2657.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
March 3, '09.	99.8	102.2	102	102	101.4	Small, painful, persisted to 2nd day.
July 11,	100.4	103	102.8	100	100	" " non-persistent.
" 17,	100.4	102.6	102.8	102	102	" " " "
Oct. 16,	101	101	102	102	102	Large, painful, persistent.
April 24, '10.	101	103	104	104	103.6	" " " "

Post-mortem. A very heavy chronic infection; a few recent nodules.

Remarks.—Except in the last test (possibly due to the recent lesions) the temperature was not definitely suggestive of a reaction that might have been ascribed to the "local," but there was no disputing the last test.

Bay Mare 527.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
Nov. 27, '09.	101	100.2	100.2	100.2		Nil.
June 18, '10.	100	100.6	100.6	100.4		Large, painful, appeared 3rd day, lasting 2½ days.
" 29,	100	103	103.2	103	101.8	Diffuse, large, painful at 39th hour.

Post-mortem. A very recent case; only two "millet seed" nodules, one of them having an hæmorrhagic "areola."

Remarks.—From the lesions and their scarcity doubtless this case became infected between November and June. It is curious that no temperature reaction is recorded on June 18th, when a very fair one is recorded 11 days later. The animal had been passed as free, by the veterinary inspector before the "deferred swelling" of 2nd test appeared, which evinced itself after work.

Bay Mare 2094.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
March '09.	101	102	102	101		There is no record of any local reaction.
Oct. 31,	101	102	102	101	101	Slight, diffuse, painful, dispersed after 36 hours.
June 11, '10.	101	102	102	101	101	Ditto
" 29,	101	102.6	103	103	101	Slight, diffuse, very painful, persistent at 36th hour.

Post-mortem. A heavy infection of calcareous nodules.

Remarks.—At no test, except the last had the temperature responded, and the local in three of the four tests was by no means diagnostic. Even in the last it took more the character of an inflammatory diffuse thickening of the skin. It almost looks from the obvious age of the lesions as if they were beyond response. The similarity of the temperature readings for the first three testings is peculiar.

Roan Mare 2959.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
March 28, '09	99.4	101.4	103.8	103.2	102	Slight, non-persistent.
April 19,	100	104.2	105	105	104.4	" "
May 1,	100	102	101	100	100	" "
Sept. 18,	100.4	101.6	102.6	101.8	101.8	" painful, persistent.
Oct. 16,	101	99.8	101	100	100	" non-persistent.
April 24, '10,	99.8	100	99	99	99	Fairly large, painful, persistent.

Post-mortem. Many deeply-seated chronic nodules and healed scars: only one recent nodule.

Remarks. It was the local reaction that decided this case. On the two first occasions when a temperature reaction was evinced it was unsupported by a "local." The last test, on which it was condemned, produced nothing but a fair-sized local which persisted.

Chestnut Horse 1855.

Date	At inoculation	12th hour	18th hour	24th hour	36th hour	Local Reaction
April 21, '09,	100.6	100.2	100.6	100		Large, painful, persistent.
Sept. 4,	100	102	102	101	101	Slight, painless, "
Sept. 18,	100	101	101	100		Larger " "
Oct. 16,	100.8	100.2	100.4	101		Slight " "
April 24, '10	100	100.6	100	100		Small, painful, persistent.

Post-mortem. Several large chronic nodules and healed scars; only one recent nodule.

Remarks. There was a definite temperature reaction in this case, and the locals, although persistent were small, and in all, except the first and last test, painless.

TABLE II.

Testings of Horses which on post-mortem proved to be *Non-Glandered*, showing "Vagaries" of Thermal and Local reactions.

Brown Mare 2442.

Date.	At inoculation.	12th Hour.	18th Hour.	24th Hour.	36th Hour.	Local Reaction.
March 3, '09.	101	103.8	103.8	102	101	Large painful up to 26th hour, receded by 48th hour.
Mar. 27,	No temperature recorded, was said to have had a suspicious local.					
July 11,	102	103	103	102.2	101	Large, painless local up to 36th hour, receded by
Aug. 15,	Slaughtered.					42nd hour.

Post-mortem. No glanders; lung tissue disorganised with gangrene, and suppuration "foci."

Remarks.—The elevation of temperature at the 12th and 18th hour, combined with a local reaction rising to the 26th hour, raised the suspicions on the first test, but the gradually receding local did not confirm them. In the third test the temperature again appeared suspicious, and the character of the local reaction agreed with the first except that it was quite painless and quickly dispersed. The animal was not condemned on the last test, as the local, although suspicious, was not as characteristic as the first.

Black Mare 2835.

Date.	At inoculation.	12th Hour.	18th Hour.	24th Hour.	Local Reaction.
March 27, '09.	99	99	99	99.2	Small, painful up to 24th hour, then dispersed.
July 18,	100	100.2	100	100	" " " "
" 24,	100.4	101.2	101	101	Small, painful up to 36th hour, then dispersed.
Sept. 25,	103	103	103.4	99.8	Nil.
Oct. 16,	101	101	100	99.6	Small, painful up to 24th hour, then dispersed.

Post-mortem. No glanders; gangrene of the left lung; encapsuled portions of necrotic tissue.

Remarks.—The first two tests gave small, circular painful locals which were unsupported by a temperature reaction, and although they dispersed after 24 hours they were suspicious. The third test a week after the preceding was with the object of ascertaining if an injection on the opposite side of the neck within a week would produce a double swelling (as in the case of B.M. 2681, Table 1.); it, however, only produced a small painful swelling at the seat of inoculation, which persisted from Sunday morning till Monday afternoon and then dispersed, but there was no corresponding swelling from the previous inoculation, and it was unsupported by a rise of temperature. The fourth test is no indication as the temperature was abnormal at inoculation, but curiously this inoculation was the only one which produced no suspicions at the seat of inoculation. Unlike the preceding case, there was no temperature disturbance in this animal.

Black Horse 2578.

Date.	At inoculation.	12th Hour.	18th Hour.	24th Hour.	Local Reaction.
July 5, '09.	100.2	100.2	101	101	<i>Nil.</i>
Oct. 9,	100.4	102.6	100	100	Fair sized, painless up to 24th hour, dispersed by 36th hour
Oct. 23,	101	99.2	100.4	100.2	" " " " " "

Post-mortem. No glanders, but three patches of encapsuled necrotic tissue in left lung.

Remarks.—The test in July was applied as the animal was said to have shown a suspicious local the previous March, but the result was negative. As he was a bad "doer" he was tested three months later, producing a fair sized *painless* local, which quickly dispersed after the first 24 hours. The same symptoms being produced at the test 14 days later with no rise of temperature.

Bay Mare 2654.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	Local Reaction.
April 13, '09.	100	100	100	100	<i>Nil.</i>
Sept. 11,	99.6	99	100		Long, corded, painful up to 36th hour, then dispersed.
Oct. 16,	100.4	99.6	100.4	100	Small, painful up to 24th hour, then dispersed.
Jan. 27, '10.	100	101	100	100	<i>Nil.</i>

Sold. No post-mortem held.

Remarks.—This animal was tested in September as she was a bad "doer," and it produced an elongated, painful, corded swelling persisting till the 36th hour, when it disappeared. As there was nothing suspicious recorded in January she was sold.

Bay Mare 242.

Date.	At inoculation.	12th hr.	18th hr.	24th hr.	Local Reaction.
July 11, '09.	101.8	102	101.4	101.8	Fairly large, painful up to 24th hour, then dispersed.
Sept. 21,	No rise in temperature.				<i>Nil.</i>

Post-mortem. Old standing patches of pleurisy and solidified lung tissue.

Remarks.—This was a young mare that had made a bad recovery from pneumonia, and her wind was affected. The local was pronounced and painful for 24 hours.

Roan Mare 2795.

Date.	At inoculation.	12th hour.	18th hour.	24th hour.	36th hour.	Local Reaction.
March 27, '09.	99.6	102.4	102.6	102.6	101	Large, <i>painless</i> up to 24th, and dispersed by 36th
May 11,	100.4	101.8	101.8	101.1		" " " " " hour.
July 11,	102	101.4	100.4	100.4		<i>Nil.</i>
Oct. 9,	101	101	101			<i>Nil.</i>
Oct. 23,	99.2	99.2	100			<i>Nil.</i>

Post-mortem. No glanders. Lower part of right lung old-standing pneumonia. Left lung patches necrotic lung tissue.

Remarks.—The "locals" produced in the first two tests were identical, viz., large, circular, *painless*, they persisted till the 24th hour and dispersed by the 36th hour. The temperature made a feeble attempt at a rise in the first test, but subsequent inoculations were negative.

Bay Mare 2900.

Date.	At inoculation.	12th hr.	18th hr.	24th hr.	36th hr.	Local Reaction.
March 13, '09.	100.6	102.4	102	101	101	Slight, <i>painful</i> , disappeared after 36th hour.
Oct. 30,	102	101.8	103.2	100.8	100	" " " "
Nov. 23,	101	100	100.4	100	100	<i>Nil</i> .

Post-mortem. No glanders. Spleen and intestinal glands much enlarged and caseous, simulating tuberculosis, but no bacilli found on examination. Kidneys pale and friable; lungs and other organs healthy.

Remarks.—A peculiar constitutional depression was noticed on the occasion of each inoculation, and the animal appeared "sick" for several days, although there was no elevation of temperature accompanying it. The mare, which up to the first inoculation had been in perfect health, seemed to, in the words of the horsekeeper, go "all to pieces." She gradually wasted away and was slaughtered soon after the last test, whether this was due to any action of the mallein on the lesions present I am not prepared to say.

TABLE "A."

The Relation of the Local and Thermal Reactions to the Lesions of Glanders found on Post-mortem.

Under observation.	Tested at intervals of	Resumé of Local and Thermal Reactions.	Post-mortem.
Bay Mare 2632	2 months	Good persistent local, no temperature.	Several chronic pulmonary lesions, many breaking down; several recent ones around those breaking down.
13 months	2 "	No reaction, local or thermal.	
	3 "	Small, <i>painful</i> , persistent local, no temperature.	
Chest. horse 1855	5 months	Small <i>painless</i> persistent local, no temperature.	Several large chronic pulmonary nodules, many healed scars, one recent nodule,
12 months	2 weeks		
	1 month		
	6 months	Large, <i>painful</i> , persistent local, no temperature.	
Roan Mare 2959	1 month	Small, <i>painless</i> , non-persistent local, inconclusive temperatures	Many old-standing, deep-seated nodules, many healed scars, one recent nodule.
12 months	2 weeks	Small local, good temperature.	
	1 month	Similar to first.	
	6 months	Fair sized, <i>painful</i> , persistent local, no temperature.	
G. Horse 2657	3 weeks	Small, <i>sore</i> , non-persistent local; no temperature.	A very heavy, chronic, pulmonary infection, with a few recent nodules.
11 months.	14 "	Rather larger, <i>sore</i> , non-persistent local, no temperature.	
	3 months	Large, <i>painful</i> , persistent local, no temperature.	
	6 "	Similar local, good temperature.	
B. Horse 2696	2 months	No reaction, local or thermal.	A very heavy, chronic infection, characterised principally by large "clumps"; no recent nodules.
11 months.	3 "	Slight non-persistent local, indefinite temperature.	
	6 "	Local, <i>painful</i> but small, good temperature.	
R. Mare 2436	3 months	Small, <i>painful</i> , non-persistent local, no temperature.	A few healed scars; no chronic nodules, a few recent, sub-pleural nodules.
9 months.	2 weeks	Large, <i>painful</i> , non-persistent local, indefinite temperature.	
	5 months	Large, <i>painful</i> , persistent local, indefinite temperature.	
	1 month	Large, <i>painful</i> , persistent local, indefinite temperature.	
R. Mare 2360	3 months	No reaction, local or thermal.	A few chronic nodules; several healed scars; patches of gangrene in lungs.
9 months.	2 weeks	" " "	
	6 months	Large, <i>painful</i> , persistent, local, no temperature.	

Under observation.	Tested at intervals of	Resumé of Local and Thermal Reactions.	Post-mortem.
Ch. Mare 2735	5½ weeks	Small, non-persistent local, indefinite temperature.	A few old standing, deep seated nodules.
13 months.	2 months	No reaction, local or thermal.	
	3 "	" "	
	2 weeks	" "	
	6 months	Large, <i>painful</i> , persistent local, no temperature.	
B. Mare 3237	2 months	Large, <i>painful</i> , non-persistent locals; fluctuating temperatures.	Many old standing nodules.
4 months.	2 "		
	1 week	Large, <i>painful</i> , persistent local, no temperature.	
B. Horse 3255	2 months	Slight, non-persistent local, no temperature.	A mixed infection of chronic and recent nodules.
4 months.	2 months	Large, <i>painful</i> , persistent local with indefinite temperature.	
B. Horse 2517	2 months	Good local, no temperature.	Many chronic nodules; no recent ones.
	2 "	Good local, fair temperature.	
4 months.			
B. Mare 2584	2 months	Good local, no temperature.	Many chronic nodules; no recent ones.
	2 "	Good local, fair temperature.	
4 months.			
B. Mare 31	3 months	Typical.	Many recent nodules; no chronic ones.
		Had given suspicious local, but indefinite temp. 3 months ago.	
3 months.			
B. Horse 2514	1 month	Very slight local, suspicious temperature.	Many chronic nodules; no recent ones.
3 months.	2 months	Typical local, fair temperature.	
Blk. Horse 3116	1 month	Typical local, almost definite temperature.	Many chronic nodules; no recent ones.
3 months	17 days	" "	
B. Mare 2681	2 months	Typical local, no temperature.	Many chronic nodules; no recent ones.
	1 week	<i>Painful</i> , large, persistent local, also another at seat of last week's inoculation, other side of neck: no temperature.	
2 months			
Br. Mare 3045	2 months	Good, persistent local and temperature.	Many chronic lesions; no recent ones.
2 months			
B. Horse 2751	2 months	Good persistent local with no temperature, following after 2 months a good local, and temperature characterised by a sudden rise at 12th hour, followed by gradual fall.	A few chronic nodules; no recent ones.
2 months			
B. Mare 2094	7 months	Slight, diffuse, <i>painful</i> local, dispersing after 36 hours; no temperature.	A heavy infection of calcareous nodules throughout both lungs.
	8 "		
8 months			
	18 days	Local similar to preceding, persistent at 36th hour; fair temperature reaction.	
B. Mare 527	6½ months	<i>Deferred</i> , large, painful local appeared 3rd day after work, and lasted 2½ days; fair temp.	A very recent case; only 3 "millet seed" nodules found, 2 of them having an hæmorrhagic areola.
7 months			
	11 days	Local similar to above (B.M. 2094) fair temperature.	

TABLE "B."

The Relation of Local and Thermal disturbances to Lesions other than Glanders found on Post-mortem

Under observation.	Tested at intervals of	Resumé of Local and Thermal Reactions.	Post-mortem.
Br. Mare 2442 4 months	3 weeks 14 "	Suspicious local, no thermal. Large, <i>painless</i> local up to 36th hour, receding by 42nd hour.	No glanders: lung tissues disorganised with gangrene and suppurative foci.
Blk. Mare 2835 7 months	4 months 1 week 2 months 3 weeks	Small, <i>painful</i> local, dispersing after 24th hour, no temperature. Similar, dispersal after 36th hour Negative. Similar to first.	No glanders: gangrene of left lung, encapsuled portions of necrotic lung tissue.
Blk. Horse 2578 7 months	1 week 3 months 2 weeks	Negative. Fair, <i>painless</i> local up to 24th hour, dispersing quickly, no temperature. Similar.	No glanders: three patches of encapsuled necrotic tissue in right lung.
B. Mare 2654 9 months	5 months 1 month 3 months	A long corded, <i>painful</i> local, dispersing after 36th hour, no temperature. A small <i>painful</i> local, dispersing after 24th hour, no temperature. Negative.	No post-mortem, as mare was sold.
B. Mare 242 2 months	2 months	Negative; following a fairly large <i>painful</i> local, dispersing after 24th hour, with no temperature, 2 months previously.	No glanders: old-standing patches of pleurisy and solidified lung tissue.
R. Mare 2795 7 months	2 months 2 " 3 " 2 weeks	All negative, after showing, 2 months previous to the first test, a large <i>painless</i> swelling up to the 24th hour, dispersing by the 36th, with a temperature rise to 102.6.	No glanders. Lower part of right lung solidified from old-standing pneumonia; left lung, patches of necrotic tissue.
B. Mare 2900 8 months.	6½ months 3 weeks	Small, <i>painful</i> local, dispersed after 36th hour, very slight thermal disturbance, but great constitutional depression for several days. Negative, except great constitutional depression for about week.	No glanders: the spleen of intestinal glands much enlarged and caseous, simulating tuberculosis, but no bacilli found on examination; kidneys pale and friable; lungs and other organs healthy.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.		Parasitic Mange.	Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.			Out-breaks	Slaughtered.*
IRELAND. Week ended Dec. 23	...	...	...	...	...	...	2	9	3	64
Corresponding Week in {	1910 ...	...	...	...	...	...	1	21	5	17
1909 ...	...	...	...	...	...	...	1	21	...	2
1908 ...	...	...	...	...	...	...	...	14	3	3
Total for 51 weeks, 1911	9	16	...	...	2	3	58	333	174	2563
Corresponding period in {	1910 ...	7	13	...	1	2	65	456	95	2152
1909 ...	8	8	...	...	...	...	75	417	88	1570
1908 ...	7	10	...	...	...	...	39	362	159	3591

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 23, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

A general meeting of the Association was held at Wynn's Hotel, Abbey Street, Dublin, on Wednesday night, November 22nd, when the President, Prof. A. E. Mettam, occupied the Chair, and the following gentlemen were present: Jas. McKenny, Chas. Allen, P. J. Howard, J. B. Dunlop, W. H. Wilkinson, W. Cargill Patrick, Prof. J. F. Craig, J. H. Norris, and A. Watson, Hon. Sec.

On the motion of Mr. Howard, seconded by Mr. McKenny, the minutes of the last meeting were confirmed.

Letters of apology for inability to attend the meeting were received from Col. Moore, Messrs. Thompson (Lurgan), Dobbyn, Reavy, O'Brien, Jordan, Chambers, Nolan, Vahey and F. A. Heney.

The SECRETARY read the report of the Council, and Mr. Allen proposed that it be received and adopted. (Agreed.)

REPORT OF COUNCIL.

A meeting of the Council was held on November 3rd. The President occupied the Chair, and there were also present: Prof. Craig, M.A., J. B. Dunlop, Prof. O'Connor, P. D. Reavy, Fred A. Heney, B. P. J. Mahony, Jas. McKenny, Matthew Hedley, and A. Watson, Hon. Secretary.

The Minutes of last Council meeting were read and signed.

Letters of apology for non-attendance were received from W. Cargill Patrick, P. J. Howard, J. H. Norris, Lieut.-Col. Steel, J. Holland, W. H. Wilkinson and W. Chambers.

The circular letter (and resolution) from the Secretary of Committee, re affiliation with N.V.A., was read, and it was decided to refer the letter and resolution to a small committee for report.

A letter was read from the Royal College of Veterinary Surgeons relative to certain advertisements appearing in the *Sligo Times* and informing the Council that no action would be taken in the matter, for the reason that the advertisements had been inserted by a person who had no authority to do so from the gentleman whose name appeared in the advertisements.

The Royal Sanitary Institute wrote informing the Council that the Annual Congress would be held at York in August 1912, and invited the Council to send a Delegate. Mr. Reavy proposed and Mr. McKenny seconded that Mr. Watson be requested to attend as delegate from the Association, which was carried.

A letter was read from the Royal Veterinary College of Ireland stating that two students had tied for the first place at the Final Examinations held this year, and asking the Council to bestow two medals instead of the customary one. It was resolved that the request be granted, but was not to form a precedent.

A letter was read from the Amalgamated Society of Farriers asking the co-operation of the Association in a proposed revival of shoeing competitions. The Council regretted their inability to take any action in the matter.

Mr. Watson stated that circumstances would compel him to refrain from seeking re-election to the position of Hon. Secretary next January.

The General Meeting was arranged to be held on 22nd November, at Wynn's Hotel, Lower Abbey Street.

NATIONAL VETERINARY ASSOCIATION.

The President said there was a question with reference to the National Veterinary Association. It was recommended by the Council that a small Sub-Committee be appointed from the Association or the Council to report to the Association on the matter referred to in the Council's report.

It was decided to appoint as a Sub-Committee the President, Professor Craig, Mr. McKenny, Mr. Howard, Mr. Patrick, and the Hon. Secretary, who were asked to present their report to the January meeting.

CONGRESS OF THE ROYAL SANITARY INSTITUTE.

At the recent Congress held at Belfast I had the honor of attending as the Delegate of this Association.

The Congress was held under most favourable circumstances. The warm sunshine and cloudless skies left little to be desired, except perhaps an occasional draught of one or other of the sparkling beverages for which the northern capital is famed.

The various local committees left nothing undone to minister to the comfort of the visitors: various entertainments in the shape of receptions, luncheons, and excursions, were liberally provided, and I need hardly say your delegate took advantage of many of them.

Now, coming to the Congress itself I must say that it was large and representative, and included a goodly number of the fair sex, whose winning smiles and picturesque costumes added much to the appearance of the whole assembly.

All the lectures were well attended, but naturally your delegate gave most attention to that presided over by the City Veterinarian of Belfast. I don't wish to flatter Mr. Jordan, because I know he is aware of his own importance!! Still, I don't think I would be doing him justice did I not state that in his address of welcome he maintained in a worthy manner the traditions of the Veterinary Profession.

The time of this section was taken up almost altogether by a discussion--and a very animated discussion too--on the subject of "Meat Branding, and the Uniformity of Meat Inspection" presented by Mr. Barnes, M.R.C.V.S., Chief Veterinary Inspector, Islington. Considerable interest was shewn in Dr. Henry O'Neill's most elaborate description of the new abattoir for Belfast.

Various designs of humane killers and instruments for branding meat were exhibited, but none of them presented any feature of novelty except, perhaps, Mr. Jordan's 'Electric Brander.'

In conclusion, I should just like to state that the whole trend of the various speeches pointed to the Veterinary Surgeon as the man who should in future take a full share in administering the Public Health of this kingdom.

Lurgan.

J. A. THOMPSON.

The President said that a report from the delegate to the Royal Institute of Public Health had not yet come to hand.

TUBERCULOSIS.

A letter and resolutions from the Association of Veterinary Officers of Health re Tuberculosis was read by the President, who said it required a good deal of consideration. There was one thing to be considered, and that was that a Milk Bill was to be introduced into Parliament by Mr. Burns, and they would like to see how far it went. He believed that the Board of Agriculture had admitted the principle of compensation in tuberculosis, but if they were going to extend compensation the same as it was in some other infectious diseases it would be a "large order." They would want more money than for insurance.

The Hon. Sec. said it would tend to strengthen the hands of the legislature if they adopted the resolutions. It was a tall order, but on the principle of "throw lots of mud and some of it is sure to stick," it might be productive of good. He did not see that there could be any objection to the Association approving of the resolutions contained in the letter. Every member of the Association would agree with the spirit, if not with the letter, of the resolutions.

The PRESIDENT did not agree with compelling owners of property to build houses for healthy animals, the occupants to keep them in cleanly condition (Laughter).

The HON. SEC. said that the owners of the cows were the occupants in the eyes of the tax-payer.

Mr. WILKINSON remarked that there would be a good many applications for State aid.

The HON. SEC. said that there was State aid already. They could erect buildings under a grant from the Board of Works.

Mr. NORRIS said that it would cost but little money, and would give veterinary surgeons work, and do a great deal for the country. The only thing they would have to do under the resolutions would be to re-organise the Public Health Acts as at present. When the last Bill of John Burns before Parliament was withdrawn, they had practically an undertaking that the Board of Agriculture were to give compensation for udder and clinical cases. He thought the resolutions were pretty near being materialised, and he thought they should support them.

Mr. McKENNY proposed that the resolutions be adopted.

Mr. WILKINSON seconded, and the motion was carried. *Resignation.* Mr. F. W. Emery, Belfast, wrote apologising for absence and tendering his resignation from the Association.

It was decided to ask Mr. Emery to reconsider his decision.

MILK SUPPLY.

A letter was read from Mr. James Doyle, Monkstown, in which he drew attention to the fact that a Committee had been formed to consider the scarcity of milk in Ireland, the dangers of contamination, infection, etc. He considered that it was an opportunity to assert the rights of the profession in the matter of inspectorships under the Dairies, Cowsheds, and Milkshops Order, etc., and hoped that the evidence of those veterinary surgeons in a position to give it would be availed of.

The PRESIDENT said it was the intention of the Committee to take all evidence possible from members of the profession engaged in this work. He did not think he was giving any information which he should not give when he said that a large number engaged in Veterinary Public Health had already been asked to submit evidence. Everyone engaged in inspection duties would be asked to give evidence if they wished to do so.

Mr. DOYLE said it might be useful to try and bring in veterinary surgeons to do work of inspection where policemen were now doing it.

The PRESIDENT said that he thought they should wait and see what recommendations the Commission made.

Mr. NORRIS asked if the Association could not get evidence to show that laymen could not do the work of inspection.

The PRESIDENT said that he was in a position to give that information. Officials from the Local Government Board, from the Board of Works, and the Department of Agriculture were supplying them with what they wanted to know as to what powers were in existence. There were to be Medical Officers of Health and Veterinary Medical Officers of Health, to give evidence, and advertisements were to be published asking all and sundry to give evidence if they chose. They were not limiting themselves, and it was competent for any member of the Commission to suggest that certain persons should be asked to give evidence.

Mr. NORRIS said that they should send a witness from that Association.

Mr. DOYLE remarked that it was a favourable opportunity to push home the position of veterinary surgeons with regard to inspection. He had seen disgraceful cases where a veterinary surgeon had not been inspecting.

The PRESIDENT said that the idea of calling Mr. Mason was to obtain a general idea of the state of dairies throughout the country. He had as wide experience in Ireland as anyone. They would get from him a comprehensive view as to cows and the milk supply generally.

The HON. SEC. said he remembered Mr. Howard writing a paper for Cork, and he thought that he would represent faithfully the views of the Association. He was sure the Commission would be delighted to have his opinions.

Mr. McKENNY said that Mr. Mason was capable of giving the evidence, but judging from what he said at those meetings with reference to the dispensaries, he would not approve of him as representing that Association.

Mr. NORRIS proposed that Mr. Howard be appointed their representative to give evidence before the Commission.

Mr. WILKINSON seconded the motion, which was passed.

New Member. Mr. J. S. M'CANN, M.R.C.V.S., of Tullamore, was balloted and declared a duly elected member of the Association.

ROARING AND WHISTLING.

[Adjourned discussion on Prof. Craig's paper.]

E.

Mr. McKENNY : At our last meeting owing to the very able manner in which the subject of "whistling and roaring" was dealt with, and the condensed form of knowledge on the subject set forth in Professor Craig's paper, I suggested that the discussion on it be continued at this meeting, and I hope that we may now be able to so illuminate the hitherto dark clouds of mystery connected with the subject that we may be enabled to disentangle the golden cords of unexplained facts connected therewith.

Some of the facts that I more particularly allude to are the normal and abnormal sounds produced in respiration, for these vary not only in different animals but in the same animal under altered circumstances, and the sounds which under some conditions are normal, under other conditions would be abnormal—for instance, the normal sounds of breathing when an animal is galloping would be abnormal if the animal was at rest. Again, the respiratory sounds emitted by a fat horse out of work when he is galloped would be abnormal if he were in good condition, fit to race or hunt. Also the natural temperament of a horse alters the sounds. A horse with an excitable temperament when galloped may make a shriller noise in breathing than a horse with a lymphatic temper, and if a horse is ridden with its head unnaturally bent so that the larynx is pressed on, it will make a noise that otherwise it would not do. Likewise a perfectly sound-winded horse after a long journey on a dusty road, if then galloped, may make a shrill noise which ceases if his mouth and nostrils are washed out with a wet sponge, or if he is allowed to drink a small quantity of water. The respiratory sounds made by some horses having large nostrils, when slowly galloped are frequently much louder than those having small nostrils, but when the former galloped fast so that the nostrils will be fully extended, the loud flapping noise ceases, and they generally are very sound-winded horses.

It is obvious that the respiratory sounds vary very much under different circumstances, those which I have set forth are normal under the conditions described, and therefore should not be considered or unsound. Added to the foregoing Professor Craig has enumerated in his paper other sounds, which although abnormal may be but temporary and are not those characteristics of true 'whistling' and 'roaring' as laid down by the Professor from an anatomical and physiological point of view, and

upheld by all who joined in the discussion— with the exception of one gentleman who boldly informed us that although he knew that the general opinion is that the shrill sound of 'whistling' is in the inspiration, he holds that in some cases it occurs exclusively in the expiration. The variations of the respiratory sounds narrated, are as difficult to describe verbally as it would be to illustrate the sounds of music without the aid of a musical instrument, and those who are musically deaf cannot discriminate between the normal and abnormal respiratory sounds than they could the different sounds of music. A flat would be to them the same as A sharp, or a bass as a tenor voice. Although under existing circumstances it would appear impossible that even a large majority of Veterinarians could agree as to the exact sounds which denote true 'whistling' and 'roaring,' yet I believe if phonographic records were secured of sound and unsound winded horses, especially those of 'whistlers' and 'roarers' authenticated by a committee appointed of Practitioners, and these could be obtained by Veterinary Surgeons and Students at a nominal charge, each member of the Profession could, to a considerable extent be initiated by illustration of the sounds that the majority of the profession held to be those indicative of true 'whistling' and 'roaring.'

Professor Craig defines 'roaring' and 'whistling' to be a chronic condition in which an abnormal laryngeal sound is produced during inspiration. That definition indicates that 'roaring' and 'whistling' are only symptoms of a disease. If the sound is produced during expiration only or in expiration to the same extent as inspiration, he holds that the condition is not 'roaring' or 'whistling.' The difference in 'roaring' and 'whistling' lies in the pitch of the sounds produced. In 'roaring' it is low, in 'whistling' high.

I agree with this definition, and hold that the key to it lies in the fact of the abnormal sounds of 'whistling' and 'roaring' being produced in the inspiration, otherwise the loud sound known as trumpeting might by some be mistaken for 'roaring' and every shrill noise be in the opinion of some that of 'whistling.'

Indeed at the present time the fact is each veterinarian is at liberty to form his own opinion as to the sounds produced by a 'whistler' or a 'roarer,' and therefore it is not to be wondered at that there are so many differences of opinion on the subject, and this deplorable condition will continue until standard sounds of 'whistling' and 'roaring' are agreed on.

As to the cause of the sounds of 'whistling' and 'roaring,' Professor Craig's opinion as given in his paper may be correct, but I ask him to explain how it is that the removal of the Arytenoid Cartilages or the free portion of same has frequently removed the abnormal sounds.

With the pathology of 'whistling' and 'roaring' so far as the laryngeal anatomical changes which take place are concerned, Professor Craig has dealt excellently, but we need much more knowledge than that pertaining to the local lesions to explain how some 'whistlers' exhibit symptoms which indicate that extensive alterations of their larynx have taken place, yet it does not prevent them from performing feats requiring much stamina: and again, other horses that 'whistle' but slightly become distressed on comparatively little exercise. Therefore, as the laryngeal changes that take place in a 'whistler' do not always necessarily incapacitate a horse from performing feats requiring great powers of endurance, it is evident that sometimes other structures also are involved.

In my opinion, in considering the pathology of 'whistling' it is not wise to confine ourselves to the mere local changes of structure that take place and produce the abnormal sounds. I have no doubt that the paralysis of the recurrent laryngeal nerve can be, and is, caused by ailments affecting the pneumogastric nerve, and there-

fore the affections, chronic and acute of the lungs and stomach should be considered. My views on this matter were more fully expressed at our last meeting.

Professor Craig has drawn our attention to the fact that long fine necks are often seen in 'roarers.' Since his paper appeared in *The Veterinary Record* I was consulted in a matter relative to the fact. A gentleman sold a horse which had a long, fine neck, and the purchaser had it examined by a Veterinary Surgeon who condemned the horse as unsound on account of its neck, stating that although the horse might then be sound in wind it would become a 'whistler' or a 'roarer.' The purchaser then galloped and otherwise examined the horse, and bought it, and stated he would never again have a horse examined as to soundness by a Veterinary Surgeon, as the opinion given showed him it was only throwing money away. I was asked by the seller if the horse had not been bought, could he have made the Veterinary Surgeon pay for his loss. Of course I said no, but I need not tell you what I thought of the opinion.

As to 'whistling' being hereditary, I certainly am, from my experience, of the opinion it is transmitted from parent to offspring. This may or may not be, technically speaking, hereditary, but the fact remains that the offsprings of certain sires and dams are nearly always 'whistlers' and 'roarers.' At the same time, in my opinion, when we are called on to examine a horse as to its soundness, whose sire or dam we know was a 'whistler' or 'roarer,' we should not condemn it as being unsound because we are strongly of opinion it will become a 'whistler' or 'roarer.'

It may appear to some of you that my remarks on the opinions given as to the long fine necks, and horses bred from whistlers (hereditary) are uncalled for in this assembly of professional men, but grant for a moment that some veterinarians when called on to examine horses relative to soundness, condemn as unsound such horses, and state that although they then are sound in wind, they will become whistlers or roarers, and other veterinarians give their opinions in accordance with the facts that they are sound. Which of these veterinarians are acting strictly in accordance with the knowledge we possess on the subject? The former may say we give our opinion on the fact that long, thin necked horses generally become whistlers; and whistling is hereditary, therefore we condemn as unsound those horses, as at the time of examination they have defects which probably will render them unsound. And this line of reasoning also applies to other defects which are generally admitted as constituting unsoundness. On the other hand it may be held that if at the time of examination a horse is sound, that fact should be stated, and as defective formation and breeding are not defect of tissue these are not matters calling for our opinion when asked to state whether the horse at the time of examination is sound or otherwise.

Proceeding, Mr. McKenny said that Prof. Craig had asked him to state cases of whistling being transmitted from parents to their offspring. He could give many cases that he knew of sires and dams that were whistlers and their offspring invariably were also whistlers, but in the case of some stallions the fact was more remarkable, as nearly all their progeny, certainly the majority of them, became whistlers although their dams were free from it, and might have bred, to other sires, horses that remained sound.

At present he knew a very good looking sire and had seen a large number of his offspring, and they were very well-made, stout horses showing lots of breeding, steeplechasers, and high-class hunters, with well-shaped necks, and the large majority of them were whistlers. One of his clients bred three horses from this stallion and the three were whistlers—a two year old, a three year old, and a four year old. He had previously bred from the

same dam three other horses got by different stallions, and they remained sound in wind.

Mr. McKenny stated he felt sure that nearly everyone that practically knew anything about breeding horses would give the same opinion as he had given as to the transmissibility of whistling, whether they called it heredity or predisposition. Certainly the majority of the offspring of some stallions became whistlers whether their necks were long and thin, or short and thick.

Mr. ALLEN said that the man who wrote a paper and read it before his Association was entitled to their best thanks whether the paper was good, bad, or indifferent. He had carefully read Prof. Craig's paper, and in theory and practice it was the very best written on the subject. He had read everything on the subject, and had studied the matter very closely himself, so could appreciate it thoroughly. On his part he begged to return Professor Craig his sincere thanks. Professor Craig had asked a few questions, but he had explained matters so fully that there was nothing left to answer.

One question is, what is the cause of the sound known as roaring? Well, anything that interferes with the action of the muscles on the larynx. The principal cause is inflammation of the mucous membrane lining the larynx. When it becomes thickened and indurated the muscles cannot act, so then become wasted, and seldom recover their tone and strength. Over exertion causing strain of the muscles and ligament, and pressure from some cause or other. The theory that roaring is due to paralysis of the left recurrent nerve causing atrophy of the muscles of the left side is, I consider, without any proof, as lots of horses that have been roarers have perfectly recovered, which they would not if it were due to paralysis. It is stated that the disease is hereditary. I do not believe it is. No horse was ever foaled a roarer. But the diathesis or predisposition to the disease is due to shape or malformation, which is hereditary. A true-made horse may become a roarer from accident, but that is not hereditary. I have known sound stallions get roarers; and stallions that were roarers and grunters get very sound horses. I agree with Prof. Craig in all he has written in his paper, and again beg to thank him.

Mr. McKENNY said some time ago, in a conversation with Mr. Allen, he was impressed by his remarks relative to some facts which he thought might be a cause of the near recurrent laryngeal nerve being paralysed more frequently than the off, and he hoped Mr. Allen would excuse him for briefly submitting to the meeting the simple, yet perhaps the most important fact of the frequency in which the head is twisted to the near side, and sometimes necessarily with a severe jerk, as for instance, we catch a foal on the near side, cavezon, and lead on the near side, and unfortunately when training, most grooms ring a great deal more to the near than to the off side, and in the case of a highly nervous or unruly animal, have occasion to pull the head with much force to the near side. We saddle, mount, and harness from the near side, and as a result of this perpetual handling from the near side, the structures of the near side of the neck are interfered with more than they are on the off side, and consequently may to some extent, be a cause of the left recurrent nerve becoming paralysed more frequently, and prior to, the right becoming affected.

Mr. Allen also mentioned to me that he noticed that in cases of navicular disease occurring in one fore foot, he invariably found it was the off fore was affected, and when it occurred in the near, the off fore was also affected. The handling referred to brought the off fore foot more forcibly to the ground than the near one, and this might account for navicular disease occurring more frequently in the off fore foot than in the near fore foot.

Mr. ALLEN—In nineteen cases out of twenty.

Mr. HOWARD said he thought it would be a very happy solution to the question, if, as Mr. McKenny said,

they could arrive at some definite conclusion as to what would be recognised by the profession universally as 'roaring' and 'whistling' and the degrees of it, but somehow he was afraid that for ever it would be the opinion of individuals. In the remarks he made at the last meeting he suggested that it would be really the happiest thing for them as regarded the question, particularly when they came to bring it into actual practice with regard to the examination of animals, if the public could be educated on the point. He was afraid that opinions governed all Veterinary Surgeons when they examined horses. Their opinions were based considerably on the public expectation or definition existing in the minds of the public as to what 'roaring' and 'whistling' was. He repeated the statement that he thought a good many horses were cast by Veterinary Surgeons because they were making some little deviations from what appeared to be normal, on the knowledge solely that the horse would come before someone else who would cast him, not because he had an unsoundness but in accordance with public custom.

He thought that Professor Craig had almost fully answered his own questions. He still thought they must describe 'roaring' or 'whistling' as any abnormal musical sound made in inspiration or expiration. He had often met horses making a noise in both. They might ride a horse which was absolutely sound, but if they got the head in a particular position the animal would appear very unsound, (hear, hear.) He had a horse at the present time which he hunted with the previous day, and if they took his head he would throw it up and become a 'gazer,' and would roar at once. If the head was dropped he would race away as sound as they liked. It was unnecessary to go into what were the symptoms. The younger men would always need to be put on their guard as to the kind of animal that he was speaking of—an animal that was sound and got his head into a particular position and became unsound. They all knew that some of the clever dealers would buy a horse and put a fellow on him who said he was making a noise, and they would get £20 or £38 off in consequence of the noise. The cause of the sound would be, as everyone had said, anything which interfered with the lumen of the larynx, or it being unable to allow the necessary amount of air to pass in. They would have to leave the pathology of the question with people like Professor Craig, who could spend more time than the ordinary practitioner could devote to it. With regard to heredity, no one would dispute that there was evidence to show that at least the pre-disposition was hereditary, and as to people not knowing whether an animal was ever born with the disease, it was going a little bit too far, because no one had ever had an opportunity of examining a foal, or even a yearling. He had seen foals which had become whistlers when they grew up. He had known sires bad roarers, and they bred 90 per cent that were sound. He had known a few sires perfectly sound that had bred 50 per cent unsound ones. If they went into the history of the animal, perhaps their predecessors were a little bit musical. Professor Craig has described the pre-disposing causes. Anything which was likely to have an effect either immediately or remotely on the larynx—colds, influenza, strangles, etc., which were likely to upset the larynx; all these might be looked upon as pre-disposing causes. He was convinced that none of these causes were sufficient, and were not responsible for a large percentage, and where they had an animal inclined to be sound and coming of a sound family, 90 per cent would recover, even from an attack of strangles.

With regard to the diseases from which 'roaring' and 'whistling' had to be differentiated, he had come across cases where mistakes might have been made. He went to examine a four-year-old colt last year, and put him in the lunge, and when he went round once or twice he thought the animal was a high blower.

His experience was that when a high blower got the nonsense taken out of him, the noise stopped. When he stopped this horse he was distressed, and the noise continued. He seemed to have complete paralysis of the right nostril. He thought possibly some nerve injury had occurred in hauling him along, as he was a bit wild but he saw him again in a month, and he was still bad. For 10 or 15 minutes after the exertion his lip was noticed to be pulled to one side. That was a case in which there might have been a serious mistake made. He might have been described as a roarer or a whistler, though from a cause independent of the larynx. He was not a roarer in the ordinary acceptance of the term.

The PRESIDENT: Did you trace him for any longer period after that?

Mr. HOWARD said he watched him, and even tried to buy him. He found that Mr. Parkinson at the Curragh had met a similar case, and he had cut the flap of the nostril, and the animal did all right. A lot of horses got it through being hauled about.

He took the opportunity within the last week of examining two horses operated on. One was absolutely sound except when his head was pulled. He had been called "Gramophone," and that would give them an idea how musical he was. The operation in his case had been a success, and there was no such thing as distress.

Mr. PATRICK: Is he sound?

Mr. HOWARD: No Veterinary could pass him as sound.

Mr. McKENNY said he would like to bet £50 that if a horse was distressed and Professor Hobday or anyone else operated on him he would be as bad afterwards.

Mr. HOWARD said that this horse was well-known in the show ring. He used to be considerably distressed. It was painful. He had seen that horse finish the previous day carrying 14 stone and he was as good as the best of them when they pulled up. There was a man present who would give £100 for him and he could not get him.

He knew a six-year old horse which was a bad roarer. They had him in harness and they could not let him do six miles an hour up-hill without being in a very unhappy state. He was a terrible roarer, and would become almost suffocated. But he made a considerable recovery, and he (Mr. Howard) used him all last spring. He was doing better than he could do before. Last April the animal went lame, and he turned him out for the summer. He took him in about a month ago, and when he came in he was giddy, and had to be put in the brake. The lads told him afterwards he was as noisy as ever, but he thought the fact was that coming off grass he was not fit, and perhaps got excited in the brake. At the present time he could do ten miles an hour, and Mr. McKenny would not know that he was making a noise. There was no distress now. Mr. Howard said he knew of other cases where improvements had been made although there was one mare which had not improved. All the others had done very well. The majority of them were bad grunTERS, but the harness horse was not a grunter.

Mr. PATRICK—That seems a common sequel to the operation.

Mr. HOWARD said he was surprised to hear Mr. Allen make a serious mistake about the term "bull." Among the horse world the term "bull" was used in reference to grunTERS, and not to noise. All bulls did not necessarily make noise.

Mr. DUNLOP said he had read, or glanced at Professor Craig's paper with much pleasure, and he did not think there was anything he had said that could be taken exception to. With regard to heredity he did not think that anyone ever alleged that a foal would be born with the disease, or have the disease before it was born. It is predisposition to roaring that is hereditary. The offspring of roarers are not invariably roarers but there is a general consensus of opinion that roaring is heredi-

tary. Scientists say that we only inherit about one-half of our peculiarities or characteristics from our immediate parents. As a general rule we inherit a quarter from grandparents and one-eighth from great-grandparents. They rarely found in families that there was an intermediate condition between their parents. Some times they found part of the family taking after the father, and another part after the mother. It was the same in the human subject as in the lower animals. It proved nothing whatever whether a particular horse had a sire or a dam which was a roarer. The general opinion was that it was hereditary. No one alleged however, that the foal was born a roarer. It was the condition that was hereditary. He could not agree with Mr. Allen that roaring in its regular form was caused by, or was the immediate consequence of stiffening or rigidity of the larynx. No doubt rigidity of the larynx does occur in some cases where the horse is very old or as a sequel to inflammation. Fifty-four years ago roaring was considered to be due to paralysis of the pneumogastric nerve or recurrent nerve, which led to atrophy of one of the arytenoid muscles. If the free edge of the arytenoid cartilage as a result inclined inwards, the air drawn in forcibly against its edge, it would vibrate, and the more rapidly the air was drawn in, it would tend to cause the cartilage to collapse more and the noise would increase. Not only would the opening be reduced, but the increased current of air would be a further cause of increased vibration. It was right that a young man should be taught to distinguish between high-blowing and roaring. So far as his experience went, high-blowing always took place during inspiration. It was more noticeable in horses that were nervous, particularly when going out on a cold morning. He always noticed in galloping that the moment the fore feet came to the ground this particular sound took place.

He had never known a case of genuine or regular form of roaring to be cured. He had known one case of a horse which was condemned by two Veterinary Surgeons and he was the third. He re-examined the horse when the case came on for trial, and found the horse was sound, so he had to turn against his own side.

Mr. PATRICK—Was anything done meanwhile?

Mr. DUNLOP—There was not. The late Mr. Farrell, 53 years ago passed a horse sound which all the Veterinary Surgeons in Dublin condemned as unsound as being a roarer. He was sent to Edinburgh. Professor Dick gave him a severe trial up a steep hill, and the horse made no noise and he was passed sound. He (the speaker) did not know much about roaring at that time, but he was then under the impression that the Dublin Veterinary Surgeons had forced the horse too much against the bridle until his head was in an unnatural position. I understand Mr. Farrell had put the horse to a severe test, so did Professor Dick. He fancied that sometimes Veterinary Surgeons and a great many dealers pulled the reins too tight and drove the horse against the bridle until the horse made a noise. He could understand that a horse with paralysis of the nostril would make a noise and that would constitute unsoundness while it lasted. He rather agreed with Mr. Howard that what was always known as a 'bull' was a 'grunter.' He always looked upon the 'bull' as a precursor to roaring.

Mr. WILKINSON said that a gentleman had stated that he had examined horses in shows and found them whistlers, and when they went before the referee they were not whistlers. Was that a usual occurrence?

Mr. HOWARD remarked that it was a common occurrence in shows that a horse would be a whistler in the morning and be passed before night.

Mr. PATRICK stated that he had known a horse that whistled to be passed as sound. They could often examine a horse and find him making a noise and later they would find him sound. He was gratified to hear

the remarks about the roaring operation. He had expressed the same opinion at Ballinasloe and was not agreed with.

Mr. HOWARD related a unique case of so-called spasm of the glottis. A mare at Galway last year had been working for some months, and nothing was known to be wrong with her. The mare was working on the tramway, and one day she got in a bad state on the journey to Salthill, and had to be taken out of the tram, and fell down from suffocation. They put her in and nursed her a-day or two and then they put her in the tram, and she went a hundred yards and then nearly suffocated. He put a lad on her back and had her jogged up and down the stable yard, and she did not go more than twice when she became very much distressed. Her neck did not appear like that of a 'roarer,' and he could scarcely give any opinion about her. He examined the heart and it seemed to be as sound as they could expect. He treated her with nerve tonics, and had her walked half-an-hour every day. The muscles of the larynx were massaged, and she was as sound as ever. He had seen her do a two mile gallop since.

Mr. PATRICK said he knew a similar case where a horse had actually to be tubed to prevent suffocation, and it recovered perfectly afterwards.

Mr. NORRIS said he knew two cases like Mr. Howard's of bad 'roarers.' One had a tube and the other went along all right. On one or two occasions he had a spasm.

(To be continued).

PERMANENT COMMISSION OF THE INTERNATIONAL VETERINARY CONGRESSES.

A Meeting of the above Commission was held at Baden Baden on the 4th June, 1911, the following members were present: Lydtin (President), Hutyra, M'Fadyen, Degive, Tuleff, Happich, Hess, von Ratz, Kjerrulf, Locusteau, Schimmel, Barrier, and de Jong, (Secretary).

The agenda for the meeting included the following:

(1) Minutes of the last meeting and report regarding the work of the Bureau.

(2) Information regarding the constitution of the Commission.

(3) Constitution of the Bureau.

(4) Communication of the views and resolutions of the Ninth Congress regarding the work of the Commission and of the Tenth Congress.

(5) Preparations for the Congress in London.

(6) Views and propositions of the members of the Commission.

The President in opening the proceedings mentioned that several members had wished a meeting of the Commission to be held the previous autumn, but the majority had preferred the period of Whit-Monday. In any case it was desirable to meet in 1911 in order to bring definitely to a close the work of the preceding Congress at The Hague. Actually more than a third of the members of the Commission were present, and therefore any resolutions arrived at by the meeting would be valid. The President mentioned the names of members who had excused their absence, and referred in feeling terms to the loss of two honorary members of the Congress, viz., Professor Robert Koch and M. Arloing. He added that, as he was himself ill at the time, he had invited M. Arloing to represent the Commission at the ceremony commemorative of Professor Koch which was held at Berlin in December 1910. Three months later M. Arloing, who was one of the Vice-Presidents, was himself removed by sudden death. In that case the President had represented the Commission at the funeral of their learned confrère.

At the jubilee of Professor Schütz, Professor Hutyra, the Vice-President, had been good enough to represent

the Commission, but unfortunately at the jubilee of Professor Dammann no member of the Bureau had been able to go to Hanover to represent them. The President had written to express the sympathy of the Commission with these celebrations.

In conclusion the President stated that in conformity with the statutes of the Commission he had been obliged to decline the request to organise an international congress on the occasion of the Congress of Hygiene at Dresden in 1911.

Passing to the agenda for the day, the President informed the meeting regarding the steps which had been taken in France in order to obtain a worthy successor to M. Arloing. Although the elections ought to be made by the future Congress, the Commission could make a provisional election, and the President was glad to say that M. Barrier was the candidate put forward by the French government and the French veterinary societies.

M. Barrier, having been elected by the Commission, received the congratulations of the President, and in returning thanks said that he would do everything in his power to further the work of the Commission. At the same time he conveyed to the meeting the salutations of M. Chauveau.

Before entering on the discussion of the second subject on the agenda for the day the President said that the Permanent Commission and the Executive Committee were two different bodies, and that it was not necessary that one person should hold the office of secretary to both, although, by an accident, that was the case at The Hague. A divergence of views between these two bodies did not signify an absence of collaboration. At The Hague the Executive Committee had collaborated with the Permanent Commission, and it was the right and the duty of the latter to offer useful criticism. He wished once more to take cognisance of the fact that at The Hague very valuable work had been done in the interests of the profession and of science. What had been done in that connection by the organisers of the Congress merited praise, and he took the opportunity to offer their thanks to MM. Schimmel and de Jong.

M. Schimmel thanked the Commission and also the President and Secretary.

M. de Jong also returned thanks, more especially to the President, who had always seconded his efforts in very difficult circumstances.

The Secretary read the list of the members of the Commission.

On the proposal of the President the third subject on the agenda for the day, viz., the election of the Bureau, was postponed until the afternoon sitting, and the Commission proceeded to consider the fourth subject, viz. the views and resolutions of the Ninth Congress. According to one of these resolutions the Commission had to consider the question of establishing an International Commission for dealing with tuberculosis in animals and eventually to formulate a proposal to the next Congress. The meeting thought it desirable to nominate a reporter to study the question, such reporter to have the right to confer with different specialists. M. de Jong was nominated reporter on the subject.

With regard to the Resolution Section I., III., 9, (disinfection of railway wagons), it was decided to appoint as a committee to consider the subject MM. Hess, Schnürer, and Ostertag, and M. Martel if M. Ostertag did not accept. The report of the meeting of the committee to be presented to the Congress in London.

Resolution Section V., II., (regulations regarding over-sea transport of animals). The meeting appointed as a committee MM. Stockman, Rickmann, Hoogkamer, and van Es.

It was decided that the invitations to join these committees should be sent by the Secretary in the name of the President.

The other opinions and resolutions of the Ninth Congress which had a special interest for the Commission or for the future Congress had already been given effect to or they will appear in the programme of the Congress in London.

The President read a telegram from M. Piot excusing his absence, and another from the French Minister of The Hague announcing the name of M. Barrier as the French delegate.

At the afternoon sitting of the Commission the first business considered was the election of the Bureau. M. Lydtin, the President, intimated that on account of his age and the state of his health he did not wish to be proposed as a candidate. M. Degive, however, asserted that he was interpreting the views of all present in saying that it would be in the interests of the Congress and of the Commission to re-elect with unanimity their venerated and very active President. In view of the general applause with which this proposal was greeted, M. Lydtin agreed to accept the office of President, and thanked the members for their confidence.

M. Lydtin proposed as Vice-President M. Hutyra, who had already held this office, and whom he designated as his future successor. This was carried unanimously, and M. Hutyra returned thanks. The President had thought of M. Bang as second Vice-President in place of the late M. Arloing, but as M. Bang did not attend the meetings of the Commission he said that M. Degive appeared to be a very suitable candidate, and that perhaps M. Barrier, being French, was still better qualified to succeed M. Arloing. M. Degive advocated the election of M. Barrier, but the latter, while expressing his warm acknowledgments, said that he was the junior member, and M. Degive had the greater right to the office and would be a worthy Vice-President. He therefore proposed M. Degive, and this was carried unanimously.

M. de Jong was selected as Secretary, and M. von Ratz as Joint Secretary and Treasurer. Both of these gentlemen returned their thanks for the honour.

The President then called on Sir John M'Fadyean, who said that certain provisional arrangements with regard to the holding of the next Congress in London had already been made, and that it was his intention to have a meeting called at an early date at the Royal College of Veterinary Surgeons. The question of financing the Congress had been the subject of consideration, and it appeared probable that they would be able to raise the necessary funds. It was their intention to choose the subjects to be discussed at the Congress with every care, and in that connection they would bear in mind the suggestion made by M. Hutyra. He desired to ascertain the views of the Commission as to what would be the most convenient time for holding the Congress. He suggested that the last week in July, which formed the close of the London season, would be the best, or alternatively, the first week in August. He thought that the month of September would be too late. With regard to the funds necessary to carry through the work of the Congress, he mentioned that they would not receive any Government subsidy, but, on the other hand, he believed that the members of the profession in Great Britain would subscribe liberally. The Commission resolved to fix provisionally the date of the Tenth Congress for the end of July or the beginning of August 1914, and the President thanked Sir John M'Fadyean for the information which he had given them.

The President then called on M. de Jong, who wished to raise a question of much importance.

The accounts of The Hague Congress would probably show a surplus of about 2,500 Dutch florins as a result which was due to an extraordinary subsidy which the Dutch Government had given to the Executive Committee, fearing that the ordinary grant would be insufficient. The idea had occurred to the Executive Committee at The Hague to take the necessary steps in order

that this sum might be available for the Permanent Commission, and more especially for the Secretariat. The latter might be fixed at The Hague, following the example of the Permanent Commission of the International Medical Congresses. The Hague was becoming more and more the seat of international corporations, and it seemed to be in the interests of the organisation of the Permanent Commission and of the International Congresses that the Secretariat and the archives should be located in some definite office and place. If the Government of The Netherlands were disposed to favour the idea of obtaining an office at The Hague, and at the same time the functions of a Secretariat, the Executive Committee of the Congress would probably have handed to them the surplus of 2,500 florins to be employed in paying the first cost of the installation of the Secretariat. All that would be in the interests of the Commission, which would then have obtained a special office for its Secretariat, while the latter would possess its own proper premises under the patronage of the Dutch Minister of Agriculture.

In reality, the Netherlands Minister of Agriculture was disposed to favour the idea, and he had authorised M. de Jong to say that if the Secretariat of the Permanent Commission were installed at The Hague His Excellency would give his patronage to it, and also to the meetings of the Commission in the event of these being sometimes held at The Hague. Subject to the same conditions, the Executive Committee of the Congress would place the sum of 2,500 florins at the disposal of the Permanent Commission.

The Minister would also put at the disposal of the Commission an office in which would be deposited its archives and its library, and in case of any meetings of the Commission being held at The Hague the necessary accommodation would also be provided. The Minister would also extend his patronage to the correspondence of the Commission if the latter required his support. But, apart from such support, the Commission would remain independent in its divisions and movements.

Unfortunately, although the initial proceedings in the matter had been taken some months previously, His Excellency's letter was not received until the 31st May, and thus had only been in possession of the Secretary for four days. There was therefore absolutely no time to have the question placed on the agenda. That, however, did not appear to be indispensable, in view of Article 13 of the Statutes of the Commission, which allowed them to consider propositions which were not included in the programme of the meeting provided they receive the support of a third of the members present. The Secretary stated that he had that day communicated his idea on the subject to the President, and as a result of the conversation he had the honour to move the following propositions:—

(1) That the Permanent Commission approve of the formation of a Secretariat as a permanent institution, possessing its own office and funds, and, if necessary, its own staff.

(2) That the Commission accept the offer of the Executive Committee of The Hague Congress to employ the surplus from the Ninth Congress for the installation of the Secretariat at The Hague.

(3) That, subject to the approval of the Governments who have sent delegates to the Commission, the Commission accept the offer of the Minister of Agriculture for the Netherlands to patronise the installation of the Secretariat at The Hague, especially in the interests of international correspondence.

M. Barrier enquired whether in accepting the proposition the Commission would remain independent, and if the funds necessary for the correspondence would be at the disposal of the Commission. M. de Jong replied in the affirmative.

M. Hutyra, while recognising the advantages of the

proposition, thought that they could not deal with the matter since it had not been put on the agenda for the meeting. They had to consider three questions: (1) Whether it was necessary for the Commission to have a fixed office; (2) if so, in what town; and (3) if the Government who had sent delegates to the Commission would be in favour of the proposition. He himself had no authority from his Government on the question, and therefore he could not vote on the matter. He begged the Dutch delegates, in the first instance, to circulate their proposition to all the members of the Commission, after which the matter could be discussed.

In the course of the discussion which followed, MM. Hess, Kjerrulf, and M'Fadyean said that they also had no power to vote on the proposal, as they had received no definite mandate from their Government. M. Degive said that he was not quite clear as to what would be the consequences of the proposition.

The President then put to the vote the question: "Is there any opposition to the formation of a fixed Secretariat?" The result was that seven members voted for a fixed Secretariat, four against it, and two members did not vote. M. Hutya then brought forward his proposal that the question should not be considered until after notice had been given to all the members of the Commission. This motion was rejected—six voting for and seven against it. The President then put separately to the vote the three parts of the proposal of M. de Jong, with the following results:—

The first part was accepted by seven votes and six abstentions.

The second part was accepted by six votes and seven abstentions.

The third part was accepted by seven votes and six abstentions.

Thus the whole of the proposal was carried. Several of those who had abstained from voting declared that personally they were in favour of the proposal.

The programme of the meeting being now exhausted, the President thanked the members for their attendance, and the sitting came to a close after M. Barrier, on behalf of the members, had in very cordial terms thanked the President for his services in the chair.

DR. LYDTIN, *President*.

D. A. DE JONG, *Secretary*.

Veterinary Science—An Appeal.

In 1790 the Odiham Society of Agriculture in Hampshire appointed a committee "to consider the best method of improving the art commonly called Farriery," and during the following year founded the Royal Veterinary College, which acquired its present site at Camden Town in 1792, when the first students were enrolled. The fees were fixed at twenty guineas for the sessional year, and have remained at that figure ever since. At the commencement of its existence, the College had to rely on donations and subscriptions, supplemented by the small amount of students' fees, for the acquisition of a site, building operations, and the remuneration of the staff. But in 1795 Parliament, in recognition of the national character of what was being done, made an annual grant of £1500, which, however, was withdrawn in 1815, and no further State aid was given until 1906. During the first half of the last century the College discharged the double function of a teaching and an examining body; but in 1844 an agitation arose amongst veterinary surgeons, and they were incorporated by charter as the Royal College of Veterinary Surgeons. That College is still often confounded with the Royal Veterinary College, to which it really stands in much the same relation as the Royal College of Surgeons does to the different hospitals. It fixes the terms and standard of veterinary education, and prescribes the period of study, but is not itself a teaching body: it conducts the

examinations and grants the veterinary diploma, thus holding the door of admission to the whole profession, and being in fact the only portal through which the veterinary surgeon can pass. In 1881 the Veterinary Surgeons Act, which is somewhat similar to the Medical Act, was passed, making it an offence for any one to call himself a veterinary surgeon without the diploma. The amount of knowledge required to pass these examinations represents merely the *minimum* attainments considered necessary for those who are to engage in veterinary practice: and the Royal Veterinary College has constantly had to extend its operations.

In an endeavour to meet the new requirements the Governors between the years 1890 and 1894 spent nearly the whole of the accumulated funds of the College (about £13,000) in building and equipment, while the teaching staff has been gradually increased until it now numbers nine professors and five qualified assistants. The course of instruction covers four years, and students are prepared for the degrees of Bachelor of Science and Doctor of Science and Veterinary Science at London University. This has entailed considerable additional expense, and, if the work of the College had to be curtailed, the preparation of students for these degrees would be the first thing to be given up. There is also a Post-graduate course in veterinary pathology and bacteriology, with an average attendance of 40 students during the past five years. This is one of the most important services rendered by the College, and, had it not undertaken it, the standard of veterinary science in Great Britain must necessarily have been much lower than it is at present. The course, moreover, is of particular value in qualifying men for the Colonies.

THE PRESENT POSITION.

Unfortunately the position of the College to-day is somewhat critical. It depends entirely upon voluntary subscriptions or donations, an annual grant of £500 towards the expenses of the Department of Comparative Pathology and Bacteriology, and a grant of £1300 a year from the Board of Agriculture. The grant of £1390 from the Development Fund is ear-marked for the expenses incurred in experiments and not for remuneration, mainly in vaccination with relation to tuberculosis, and has imposed extra work upon the staff. Sir John M'Fadyean, the Principal, having himself frequently to travel about the country in connection with experiments. It is impossible to raise the fees, as the students are the sons of men of very moderate means, and the number of students is tending to decrease. The prospects of the profession are not nearly so good as they were a few years ago, owing to the introduction of motors, and the consequent diminished demand for horses, whose treatment constituted the most profitable part of a veterinary surgeon's practice. An appeal to the Government is therefore imperative, and their attitude compares most unfavourably with that of the Government in other countries. In Prussia, for instance, the State expended £12,000 upon building a veterinary college, and makes an annual grant of £5,600; in Saxony £90,000 was spent on building, and the annual grant is £6,400; in Bavaria £57,000 on buildings, with an annual grant of £10,000; in Hanover £150,000 for buildings, and the annual grant is £3,650; in Wurtemberg £36,000 on building, and a grant of £4,550; in Holland the Veterinary College at Utrecht has an annual grant from the Government of £7,125. The indifference of the present Government to England and Wales is all the more remarkable in view of the substantial assistance already given to Scotland and Ireland. Under Section 16 (1) (a) of the Agriculture and Technical Instruction (Ireland) Act of 1899, a sum of £15,000 was applied for the purpose of providing suitable buildings, fittings, and appliances for the Royal Veterinary College at Ballsbridge. This sum was supplemented by a fur-

ther grant of £12,350 from the endowment fund of the Irish Department of Agriculture.

With regard to Scotland, £5,000 has already been given as a capital grant to the College in Glasgow, and £20,000 is to be given to the Royal (Dick) Veterinary College in Edinburgh. It is probable also that both Colleges will be assisted by the Development Fund.

For this differentiation in the aid given to particular parts of the British Empire there is absolutely no justification. The public here, moreover, hardly yet realise the supreme importance of veterinary science. The veterinary profession is the servant of agriculture, and it is essential to the welfare of agriculture that it should be composed of men as thoroughly educated as possible. But it is not merely in the industrial and commercial interests of the stockbreeder, the farmer, and the small holder that this is necessary. The health of the whole community depends upon the elimination of all risk of its contracting disease from animals, and upon the quality of the food which it consumes. Protection in both of these directions can alone be secured by means of veterinary knowledge. New problems are constantly cropping up; and it may safely be asserted that there is no disease affecting animals which does not stand in need of further investigation. This is the indispensable antecedent to all preventive and remedial measures.

It is true that we have not, and are never likely to have, complete and absolute knowledge of the pathology of any disease; but science can enable man to control most diseases, even if they are not wholly eradicated. Scientific investigation has, for example, caused outbreaks of glanders to be substantially decreased during recent years by the mallein test. On the other hand, there has been a very decided increase in the numbers of outbreaks of anthrax.

All this points to the urgent necessity for more systematic inquiry. The ground to be covered is too vast for the machinery that exists at present. We still know very little about anaemia in sheep, as is evidenced by recent correspondence in *The Times*. Is the disease due to a minute threadworm, or anaemia pure and simple? Is the emaciation caused by anaemia or by parasites? The disease, too, which was first described by Johnie, and is named after him, has lately received a good deal of attention in various parts of the world. It is a chronic inflammation affecting the internal coats of the intestine (enteritis) in cattle, and was first discovered in England by Sir John McFadyen about five years ago. Much more intimate knowledge of the pathology of this disease, both by experiment and field observation, is needed to ascertain how far affected animals react to tuberculin prepared with the bacillus of Avian tuberculosis. Again, it is impossible to eradicate a disease like sheep-scab without closely studying its epizootiology. It is not until a campaign of eradication has been undertaken that the veterinary surgeon can determine what seem to be errors or insufficiencies in the classical parasite, the development of the disease, and the effect of remedies. No expenditure can be deemed too great to ensure immunity from these various diseases.

Much doubtless can be effected by the judicious expenditure of the £50,000 per annum out of the Development Grant but this is to be applied solely to various forms of agricultural research. The Board of Agriculture has already determined the eleven subjects for which the grants are to be made, and there is nothing to indicate what sums will be available for veterinary science. In any event it seems impossible for the Royal Veterinary College to receive any aid towards building or maintenance.

THE URGENT NEED.

The fact has to be faced that veterinary education cannot be self-supporting. The Royal Veterinary Col-

lege has reached the limit of its resources. There is an increased demand for Veterinary Surgeons in connection with the Diseases of Animals Acts, but it is not easy to see where they are to be obtained. It has become increasingly difficult to satisfy the needs of the country, besides providing for the Colonies, where the best veterinary work has been done by men trained at the College. The whole economic and industrial development of the Protectorates in Africa will depend upon the supply of men qualified to control or subjugate the diseases of animals there. Nor must the requirements of the Army be overlooked. All military veterinary surgeons have to study at one of the veterinary colleges, after which they receive a little special training in the particular duties pertaining to the Army. Mention should also be made of the out-patients' clinique at the Royal Veterinary College, which does so much by way of advice or treatment for the poor owners of horses or donkeys. In the course of last year 4,855 individual cases were brought to the College, and, as several of these had to pay more than one visit, the total number of inspections amounted to 6,970. In the Research Laboratory, towards the expenses of which the Royal Agricultural Society are giving a grant of £200 for three years, there were complete or partial post-mortem examinations of 688 animals, while 952 animals were under treatment in the infirmary.

These figures illustrate the manifold activities of the College. If veterinary education is to attain the standard which it has already attained in most countries, it is absolutely necessary for the Government to aid it upon the same scale as do other Governments. It would be a national disgrace if there were no continuous advance in veterinary knowledge here, and we had to depend upon the research and experiments of Continental veterinary colleges. — *The Times*.

The Protection of Animals Act.

The Protection of Animals Act, 1911, which was introduced in the House of Commons by Mr. George Greenwood, a member of the Council of the Society for the Prevention of Cruelty to Animals, came into force on January 1st.

The Act was drafted by the Society, with the assistance of Mr. Greenwood and the Rev. the Hon. W. E. Bowen. It consolidates the statutes which deal with cruelty to animals, and contains many amendments which have been proved to be necessary. The measure relates to both domestic and captive animals. It will be an offence in future cruelly to beat, kick, ill-treat, over-ride, over-drive, overload, torture, infuriate, or terrify any animal or to cause or permit any of these acts to be committed. The *maximum* fine is increased from £5 to £25, and the imprisonment, which may be alternate or additional to the fine, is increased from three months to six months, with or without hard labour. Owners who by failing to exercise reasonable care and supervision permit any unnecessary suffering to an animal are liable upon conviction to a fine of £25.

The Court may order the destruction of an animal, when the owner is convicted of cruelty, on being satisfied that it would be cruel to keep the animal alive. The Court, when convicting the owner, may, upon proof of a previous conviction or upon evidence that further cruelty may be inflicted, deprive him of the possession of the animal. This last amendment is due to the National Canine Defence League, and was moved by Lord Leigh, when the Bill was in the House of Lords.

The Act contains a set of regulations to be observed by knackers all over the country. In these regulations it is laid down that the slaughter of all animals disposed of to a knacker must be carried out within two days; that children under 16 years of age shall not be allowed in the slaughter yards, and that no animal must be

killed in sight of another animal. A clause in the Act also provides that no knacker may act as a horse dealer. This is an important provision, for it prevents horses which have been sold for slaughter from being disposed of for draught or other purposes.

It is provided that steel traps set for hares and rabbits shall be inspected at reasonable intervals, and at least once a day between sunrise and sunset. Employers are compelled to produce employees against whom proceedings are taken, and also to produce the animal which is the subject of a charge of cruelty. Power is given to the Court to forbid the sale of, or parting with, an animal pending the determination of an appeal from a conviction, and the definition clauses are considerably extended in respect of all domestic and captive animals. The period within which proceedings may be taken has been extended from one month to six months.

The Act does not apply to Scotland.

Personal.

At a general meeting of the Council of the County Borough of Stoke-on-Trent, held on Thursday, Dec. 21st last, Prof. W. T. WILSON, F.R.C.V.S., Member Royal Sanitary Institute, was appointed to visit and examine all the cows and cowsheds within the County Borough, with special regard to tuberculosis of the udder, and to examine microscopically all suspicious milk.

ARMY VETERINARY SERVICE.

WAR OFFICE, WHITEHALL, Jan. 2.

Lieut. E. C. Doyle has been transferred from Colchester to Norwich.

The following officers embarked at Southampton on 3rd January, 1912, in Transport "Rohilla" for a tour of service in India:—

Captains E. C. Orton, W. A. Jelbart, R. C. Matthews, W. M. Millar, W. Ludgate, R. Porteous.

"PUPPY WORM CAPSULES."

Sir,

I should be much obliged if you would bring before the notice of the profession a type-written letter and sample of pills which I believe has been sent by a certain quack medicine firm to a great number of members of the profession. I have received this letter and a sample of pills. Their excuse for sending them highly amused me. They state: "We offer them at the low price of 15s per thousand; our reason for so doing being that owing to a misunderstanding 100,000 of these capsules were made of the wrong shape, so that we are unable to make use of them in the ordinary course of our business."

May I ask, is the veterinary profession going to be made a receptacle for their cast-off rubbish? Are we going to prescribe patent medicines, not knowing their contents? Are we to believe that this is not one of the common up-to-date advertising tricks, which are so common nowadays? I consider the latter part of the letter confirms this idea.

Yours truly, JAS. T. ANGIN.

Arundel, Sussex. Dec. 21.

"Dear sir,

We are taking the liberty of sending you under separate cover a sample of Puppy Worm Capsules, and should esteem it a favour if you would give them a trial in your practice.

We guarantee them perfectly safe to give to the smallest and most delicate puppy, and you will find them most effective.

We offer them at the low price of 15s per thousand, our reason for so doing being that owing to a misunderstanding 100,000 of these capsules were made of the wrong shape, so that we are unable to make use of them in the ordinary course of our business.

Should you find them satisfactory in every respect, as we are confident you will, and decide to use them, we undertake to supply your future requirements of these capsules at the same price as we now offer them."

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders				Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	(including Farcy)		Counties Affected	Animals Attacked	Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported			Outbreaks	Animals.					
Gr. BRITAIN.													
Week ended Dec. 30	22		28				4	8			26	39	620
Corresponding week in	1910	30	31				6	13	Kent	5	35	34	456
	1909	23	23				7	14			23	14	16
	1908	20	21				10	22			38	27	84
Total for 52 weeks, 1911	907		1120		19	487	208	501	London	3	434	2466	30434
Corresponding period in	1910	1465	1735	2	15	346	1008				514	1561	15123
	1909	1317	1698			533	1753				685	1650	14316
	1908	1105	1419	3	112	789	2433				849	2067	14096

Board of Agriculture and Fisheries, Jan. 2, 1912

Parasitic Mange (outbreaks)

IRELAND.	Week ended Dec. 30	...	...	...	...	...	...	2	9	1	3
Corresponding Week in	1910	...	...	...	...	...	...	...	11	1	74
	1909	...	...	...	...	...	...	...	7	...	...
	1908	1	1	...	...	...	...	1	20	...	34
Total for 52 weeks, 1911	...	9	16	...	...	2	3	60	342	174	2566
Corresponding period in	1910	7	13	...	...	1	2	65	467	96	2226
	1909	8	8	...	...	...	...	75	424	88	1570
	1908	8	11	...	...	...	...	40	382	159	3625

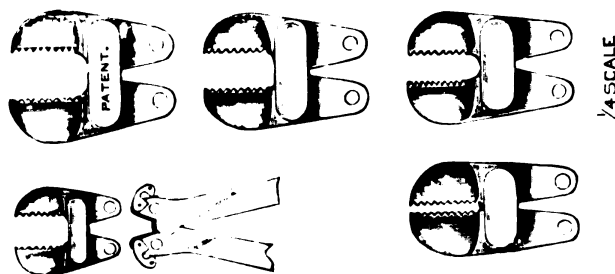
Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 1, 1912

Note.—The figures for the Current Year are approximate only.

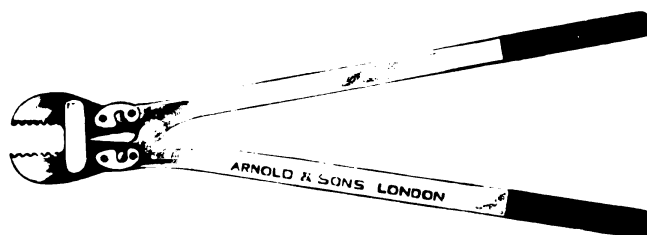
* As Diseased or Exposed to Infection

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REMOVABLE
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of DIFFERENT
WIDTHS.



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with 1 Cutting
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£3 0. 0.
Extra Blades,
17/6 each.



The **LIGHTEST**
MOST
POWERFUL
and **RELIABLE**
CUTTER
ever brought be-
fore the notice of
the Profession.

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Black-leg Vaccine, (Cord Form)

The simplest method of employing
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Double 7s.6d. Single 5s.
per ten doses, also

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LIMITED,
(Bacteriological Department),

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60 BARTHOLOMEW CLOSE,
LONDON, E.C

Practices for Disposal

BUCKS. A good opportunity for a young, qualified V.S., to secure a well established practice, represented as returning (cash) £300 p.a., on average for 16 years. Vendor retiring from profession. Good 8 roomed house and garden, stabling, etc. at £30 p.a. To effect early sale vendor will accept £100. PR. 188.

SOUTH MIDLANDS. A good-class practice in a first-rate sporting district is for immediate disposal. Satisfactory reasons for relinquishing. Returns represented as being over £450 p.a. PR. 119.

EASTERN COUNTIES. An old established practice in good agricultural district is for disposal. Represented as returning about £450. Low inclusive price for quick sale. Nice house and stabling, large paddock. PR. 118

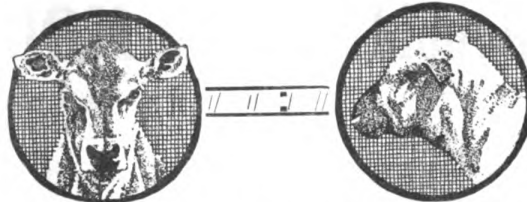
HAMPSHIRE. A partner required for old established practice in fashionable sea side resort. Returns represented as close on £700. Premium for half share £300, which can be paid by instalments if necessary. PR. 434

CHANNEL ISLAND. An opportunity for acquiring the nucleus of a practice represented as returning about £175 p.a. Great scope for increase. Easily worked at little expense. An offer of about £50 would be accepted for immediate sale, vendor having secured an appointment. PR. 120.

Many Practices are Bought & Sold through our Agency without ever actually coming into the market.

C. H. HUISH & Co.,

12 RED LION SQUARE, W.C.



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**Modern Veterinary Serum Treatment
of Infectious Diseases?**

Write for particulars to—

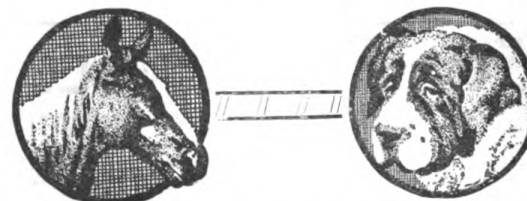
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10 doses 10/-

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Outfit for use 3/-

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Pellet Form of
"BLACKLEGINE."
10 doses 6/-
Injector with chamber for 10 pellets,
and revolving perforated disc to
discharge one pellet at a time 12/6

BLACKLEG (SYMPTOMATIC ANTHRAX)
280,000 doses of "BLACKLEGINE" have been
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New and Up-to-date Surgical Instrument Catalogue, etc., post free.

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Invaluable for Hunters, 'Chasers and Polo Ponies.**

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Price 1/- each, 10/- per dozen.

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Telegrams, "Forty, London."

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MIDLANDS. Receipts average £1400 per annum. Present hands over 30 years. Exceptionally good premises, rent £85. Working expenses very light. Easily worked. Fees good. Valuable appointments. Capital required about £1400, including valuation. Good introduction given.

WESTERN COUNTY. Receipts about £600 per annum. In present hands nearly 50 years. Advancing age sole reason for sale.

PURCHASERS ARE REQUESTED to call, or write stating their requirements, as we have numerous Practices on our Register which have not been advertised. *No charge* is made to purchasers.

SOUTHERN COUNTY. Easily worked practice returning £650 per annum. Convenient house with good yard, stabling, kennels, etc. Rent £85 or would sell freehold if preferred. Premium one years purchase, valuation optional. The vendor is well-known to us and the practice can be thoroughly recommended.

GOOD-CLASS practice in the West of London, returning £600 per annum. Well-situated house, rent £70. A partnership might be entertained with a suitable gentleman, but vendor would prefer to sell the whole practice.

WEST OF ENGLAND. Town practice held nearly 20 years by present incumbent. Receipts: 1910 £1172. Contracts produce £251. Good house containing 5 bedrooms, 3 recept. etc. garden, stabling. Working expenses light. Premium £1500.

SOUTH COAST. Country practice returning about £835 per annum, including appointments producing about £70. In present hands 24 years. The practice has been worked by an assistant who would remain if desired. Convenient house, rent £21, larger available if required. Premium £800.

LONDON, N. Very old-established practice returning about £1200 per annum. Good house and thoroughly convenient premises, rent £90. The practice is principally horse. Receipts are increasing. Premium one years purchase. This practice is well-known to us and can be recommended.

SURREY. Rapidly increasing, well-established practice returning about £1000 per annum. Small house with stabling, kennels, etc. Capital required, including valuation, will be about £1300. The practice is well-known to us and can be thoroughly recommended to a suitable man.

HIGH-CLASS mixed practice returning about £650 per annum. Good premises would be let on lease or sold if preferred. Premium £600.

PROSPECTUS, containing "*Hints to Vendors*" and "*Hints to Purchasers*," post free on application.

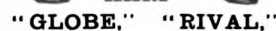
To Vendors.

WE make no charge unless a Sale is effected. If you have a genuine Practice you wish to sell quickly and without publicity we shall be please to place particulars on our Register.

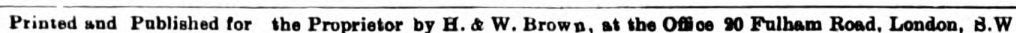
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No. 1227.

JANUARY 13, 1912.

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**A powerful invigorant, restorative and Stimulant.
Invaluable for Race Horses, Coach Horses or any
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Professional Advertisements.

These will be received up to Thursday morning.
Five lines or under 2/6 (exclusive of heading): for two insertions 4/-; for three 5/-; after three 1/- each.
Each line above five—first insertion 6d: after first 3d.
Average—seven words in a line.

These Advertisements will not be inserted unless prepaid, and if replies are to be received at this office an extra sixpence must be included.

Assistant Wanted

QUALIFIED, for agricultural practice; must be experienced and have good references. Address, 2011 V.R., 20 Fulham Road, London, S.W.

To Veterinary Surgeons and others

DISENGAGED Jan. 18th. Seventh year of engagement. M.R.C.V.S., 39, 12st., 5ft. 8in., married, no family, seeks employment, home or abroad, town or country. Ride, drive: references: considered to know his job: two guineas start: locum until suited. Address 2012 V.R., 20 Fulham Rd., London, S.W.

As Assistant or Partner

M.R.C.V.S., aged 25, requires post as assistant or partner, preferably in a good hunting practice: ride, drive and cycle. Address, 2014 V.R., 20 Fulham Road, London, S.W.

Assistant Wanted

QUALIFIED, for busy town practice, to live on premises; must be trustworthy, and have good recent testimonials. Apply, stating age, salary required, and whether married or single, to 2013 V.R., 20 Fulham Rd. London, S.W.

As Assistant or Locum

RECENTLY qualified veterinary surgeon, post graduate, requires situation as assistant or locum, in town or canine practice. Ride, drive or cycle. Address, 2015 V.R., 20 Fulham Road, London, S.W.

As Assistant

RECENTLY qualified man requires post as assistant in good town or country practice: good references. Address, E. J. Lainé, Bourgs, St. Andrews, Guernsey.

As Assistant

M.R.C.V.S. desires situation. Excellent references; experience in town and country practice. Address, 2016 V.R., 20 Fulham Road, London, S.W.

Wanted

ASSISTANT wanted as manager of a branch practice, salary and share profits. Doing £300, would sell outright. Address, 2017 V.R., 20 Fulham Road, S.W.

As Manager or Locum

M.R.C.V.S., is open for engagement as manager or locum. Disengaged Jan. 17th. Abstainer and reliable. Town or country. Address, 2018 V.R., 20 Fulham Road, London, S.W.

Mallein and Tuberculin

MEMBERS of the Profession may obtain Mallein and Tuberculin on application to the Principal, Royal Veterinary College, Camden Town N.W., on the following terms: In bottles, 6d. per dose; minimum quantity supplied, two doses. In hermetically sealed tubes, containing one dose each (specially suitable for use abroad), 1s. per dose.

G. H. PICKWELL, M.R.C.V.S.,

LOCUM:

Returned from India. Disengaged.

73 Victoria Mansions,
South Lambeth Road, S.W.

As Locum

EXPERIENCED M.R.C.V.S., will act as locum, town or country practice. Free Jan. 13th. Address, J. B. Taylor, M.R.C.V.S., Shawlands House, by Larkhall, Lanarkshire.

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IN rapidly developing district, last years bookings £250. Suit young veterinary. Easily worked, cycle, expenses low. Satisfactory reasons for disposing. Address 2019 V.R., 20 Fulham Road, London, S.W.

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ADVERTISER is prepared to purchase for cash a genuine, well established practice returning £700 a year or over. Full investigation and good introduction must be given. Confidence observed. Address, 2201, V.R., 20 Fulham Road, London, S.W.

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RECENTLY qualified veterinary surgeon requires situation as assistant from present date to October, or would take six months' engagement. Farmer's son, served pupilage and been assistant in good mixed practices. Address, 3201, V.R., 20 Fulham Road, S.W.

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GENUINE small country practice, capable of increase, suitable house, stables etc., at low rent. Returns about £150. No reasonable offer refused to effect quick sale. Full particulars on application. Address, 1201 V.R., 20 Fulham Road, London, S.W.

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Wanted a thoroughly reliable, practical, qualified (married man preferred) as partner in an extensive country practice. Full particulars in strict confidence. Only bona fide applicants with capital at command will be entertained. Address, 4201 V.R., 20 Fulham Road, London, S.W.

As Locum or Assistant

M.R.C.V.S. requires post as above. Excellent references, thoroughly practical, and experienced in both town and country practice: good operator, especially canine. Moderate salary. Address, 1014 V.R. 20 Fulham Road, London, S.W.

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Assistant Wanted

RELIABLE man for mixed practice: must have had experience with cattle practice. State age, height, and give references. Address, 1013 V.R., 20 Fulham Road, London, S.W.

Assistant Wanted

FOR mixed country practice, hunting district. State age and experience. Must be strictly sober, and no one need apply unless requiring a permanent situation. Address, 1015 V.R., 20 Fulham Road, London, S.W.

For Disposal

GENUINE country practice: receipts exceed £700. Premium £500. Valuation optional. Address, 1017 V.R., 20 Fulham Road, London, S.W.

Assistantship Wanted

BY unqualified man, experienced in town and country practice, good all-round operator. Castrate standing and not afraid of work. Address, S.W., Ingatestone, Blenheim Road, Caversham, Reading.

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GENUINE country practice, market town, Yorks. C.C. appointments. Receipts about £300, introduction. Must be sold, £50. Address, 1123 V.R. 20 Fulham Road, London, S.W.

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GENUINE old established town and country practice in North of England. Over £600 per ann. and scope for great increase by energetic man. Excellent house and stabling. Every investigation courted. Long introduction and assistance given. Present practitioner retiring. Premium £450, part of which may remain. Address, 5129 V.R., 20 Fulham Road, London, S.W.

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SET of Pathology Notes, London College. Typed ready for binding. Price, £1 1s. Address, 1512 V.R. 20 Fulham Road, London, S.W.

FOALING SEASON. Agents required in unrepresented districts for the Imperial Accident Insurance Co., Ltd. Est. 1878. Horses Insured against Death from Accident or Disease, Mares for Foaling and Loss of Foals; Farmers' Liability for Accidents to Labourers, Servants, and Workmen's Compensation. Claims paid £500,000. Address Agency Manager, 17 Pall Mall East, London, S.W.

News Cuttings.

SCRAPS which cannot readily be authenticated either as to origin or date, frequently give unnecessary trouble. A convenient method is to send the page of the newspaper containing the marked paragraph in an unsealed envelope. Postage $\frac{1}{2}$ d.

For Disposal

SNUG practice in fashionable resort in the West, returning £200, capable of being doubled by canine practitioner. Will sell at low figure. No opposition. Address, 4087 V.R., 20 Fulham Road, London, S.W.

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FOR SALE, a large quantity of Chlorodyne, full strength, B. P. 1885, at 2/- per pound. H. J. Pratt, Wholesale Druggist, Cleckheaton.

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WHEN replies to several of these advertisements are sent to this office at one despatch, it is not necessary that they should be stamped separately: they may be enclosed in one envelope, *but should be marked outside "Replies."*

CHEAP BOTTLES.

A large quantity of named medical bottles (these have various chemists' names on and washed ready for use)
2oz., 3oz., 4oz., 6oz. and 8oz. at 5/6 a gross.
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Cash with order. Carriage paid on £3 orders within 70 miles, and on £5 orders any distance.
Other bottles and jars quoted for.

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**BEST ENGLISH MAKE,
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Each Thermometer is marked
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unless otherwise
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**In Strong
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Post **1/9** Free

9/- per half-dozen,

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With Magnifying Lens

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12/6 per half-dozen, with your own Name and Address on each.

W. B. HOWLETT & Co.
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T. GICKINSON, Esq., M.R.C.V.S., 20 Trinity Square, S.E. writes:—I have tested your previous thermometers with a Kew-tested instrument and found them correct in every way.

"MAGNUM" PESSARIES.

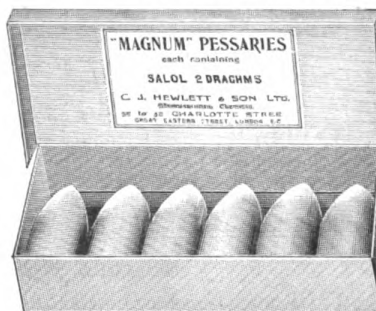
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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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CANINE TUBERCULOSIS.

In a recent number we published a carefully described clinical and post-mortem observation upon canine tuberculosis by Mr. Wallis Hoare—the second record of the nature which the same pen has given us during this year just closed. As we have said before, the subject deserves more attention than most practitioners have yet given it.

Various reasons favour the view that canine tuberculosis is more common than is realised. We may mention two in particular—the undoubted fact that the disease in dogs, as in other animals, often proceeds to an advanced stage without causing noticeable symptoms; and the frequent neglect by practitioners of their opportunities for post-mortem observation. Mr. Hoare remarks that some owners object to autopsies, and this is quite true. But many more autopsies than are made might be made, especially upon animals dying in veterinary infirmaries, if practitioners would utilise their opportunities. Very few do so fully—many neglect them woefully—and the state of our knowledge of canine tuberculosis is one illustration of the results. There is good reason to suspect that many dogs die of conditions such as pleurisy and ascites, supposedly sporadic in origin, which an autopsy would have revealed as tubercular.

The recently instituted compulsory notification of human tuberculosis will probably lead to a more systematic and comprehensive enquiry into the sources of infection in man than has yet been instituted. Canine tuberculosis will fall within the scope of that enquiry. Is our profession now in a position to render any great assistance in it? And yet a few members, each possessed of a good canine practice and rigidly observing the rule “A post-mortem whenever possible,” might be able to render very valuable assistance.

A NEW VETERINARY ASSOCIATION.

With the reconstituted National promising to take up its enlarged sphere in the present year, the advent of this new Association—the second in the course of a few months—we may hope is an augury of increasing activity in the internal life of the profession.

It is beyond question that these societies are a power amongst us which makes strongly for cohesion—for unity of thought and of action. Powerful as the press is in leading to assimilation of thought, it has not the cementing qualities of these personal meetings. And although the published minutes of the Societies may correctly represent the business of the meetings and the discussions, usually there are other matters mentioned at the

meetings which are of sufficient importance to make it worth while to be present, and besides, most of us can recall occasions on which we have picked up some hint, direct or suggestive, on matters clinical which has proved of value.

The one possible objection to a new Society—that it may overlap and weaken its next neighbours—can scarcely exist in this case, from geographical considerations, since its only land boundary—on the west—would seem to be the railway from London to Brighton, and Brighton may reasonably be looked upon as the most easterly meeting place of the Southern Counties, and might well form a joint meeting place for the two Societies once a year.

Kent has, according to our Register, just on sixty practising members, it has good railway centres—Canterbury, Maidstone, Ashford, Tonbridge, besides attractive coast towns; and in its southern half a large animal population. The remaining factor, and the important one—membership—looks promising, since forty favourable replies were announced at the first meeting, and what may be lost to London on the north may be made up from East Sussex, and possibly from Surrey, since Redhill and Reigate are as near to Tonbridge as to London.

To those men who may still be doubting about joining a Society, and to those Societies who still hesitate at the *per capita* affiliation fee for combination, we would say, in the vernacular, “You can always get nothing for nothing.”

DO WHISTLING AND ROARING DEPEND ON SIMILAR PATHOLOGICAL CONDITIONS?

By E. WALLIS HOARE, F.R.C.V.S.

If we refer to text-books for an answer to the above query we find considerable differences of opinion.

WILLIAMS (“Veterinary medicine”) states “that whistling and roaring are due to different pathological conditions of the larynx and they may exist independently of each other.” He regards whistling as “due to a diminution of the calibre of the larynx, or sometimes trachea, owing to a permanent thickening of the mucous membrane, distortion of the neck by tight reining, the presence of an immovable tumour in the trachea, or by any cause which diminishes the area of the passage of the air to and from the lungs.”

ROBERTSON (“Equine Medicine”) describes both affections together, and states, “under the general term of ‘roaring,’ we are inclined to group all

those abnormal sounds emitted by horses under exertion, and known as roaring and whistling, not because we regard them as in every case but modifications as to severity of intensity of one and the same sound, but merely because they are all deviations in the matter of sound from the condition of normal respiration."

Later on he observes "In actual practice, however, we meet with many instances of horses which are what is universally recognised as "whistlers" which have not passed through the stage of "roaring," and many so-called "roarers" which have steadily advanced from one degree of roaring to another, without ultimately terminating as "whistlers."

PERCIVAL ("Hippo-pathology") regarded whistling as a more advanced state of roaring, basing his conclusion on experiments which he made by means of a ligature passed around the trachea; when the calibre of the trachea was moderately diminished roaring was produced, but a further diminution caused whistling.

It does certainly seem peculiar that in the case of so common a condition as whistling, pathological investigation has not yet succeeded in ascertaining the exact lesions on which the abnormal sound depends. Further evidence is necessary before accepting the statement that whistling and roaring should be regarded as identical conditions, the variations in the sounds depending on modifications of certain abnormal states of the larynx and other structures.

Whilst admitting that the border line between well-marked cases of whistling and the condition known as roaring is often difficult to define, and also that a large number of whistlers ultimately become roarers, there are some facts on the other side which cannot be ignored.

It is well-known to horsemen as well as to veterinary surgeons, that a large number of horses become whistlers, are able to do their work, and continue in that condition for the remainder of their lives.

Now can this be said in the case of roarers? Would anyone have the temerity to advise the purchase of a roarer, knowing full well that the disease is so often progressive in its nature?

If whistling always terminated in roaring what an enormous number of roarers would be found in a country like Ireland, where whistlers are so common that the defect is responsible for the rejection of more horses, than any other condition.

If the new operation for roaring proves successful for the cure of whistling, that result would not prove that the two conditions are similar, for, granting that whistling depends on a permanent thickening of the laryngeal mucous membrane, the operation increases the calibre of the larynx and should benefit the case.

But is there any actual proof that whistling depends on this alteration of the laryngeal mucous membrane? Has it been demonstrated by post-mortem examination? Or have the laryngeal lesions found in many cases of roaring ever been discovered in cases of whistling?

These matters should be decided before we venture to assert that the views expressed by Williams are erroneous, or that the usual opinions held by horse owners on the subject, and by many veterinary surgeons, require to be modified.

Surely an examination of the larynx in a large number of cases of whistlers would at any rate decide the question so far as alterations in the laryngeal mucous membrane are concerned.

But whistling, so far as its pathology is concerned, is in very much a similar state to that of other common conditions in veterinary practice. Take for example that very common disease known as curb. Have we advanced an iota in our knowledge of its pathology since the days of Percival? Percival made many dissections and examinations of hocks affected with curb, and showed that the views held concerning it were erroneous, yet at the present day the disease is regarded by the majority of authors as strain of the calcaneo-cuboid ligament. Probably when the subject is again investigated, it will be found that under the heading of curb more conditions than one exist.

And so it is with many other diseases met with in every-day practice; if they are regarded as incurable, the interest in them is inclined to vanish, or if the cure is discovered a similar state of affairs comes to pass. No doubt the commercial aspect exerts a marked influence on the apathy with which such affections are generally regarded.

One important matter has been elicited by recent discussions on whistling and roaring—the occasional intermittent character of these affections. This may have the effect of explaining to the public how it is that a horse may be examined by one V.S. and rejected for his wind, and passed as sound by another, or *vice versa*. At present, when such occurs, either one practitioner or the other is designated as ignorant, according to the parties affected in the transaction. It may also show that the soundness or otherwise of a horse's wind is simply a question of opinion, and that differences of opinion may, and will, occur in matters of this kind.

As to those nice discriminations between whistling and other sounds not attributable to this condition, I am of opinion that in our present state of knowledge, and with the means of diagnosis we possess, the fact of a horse making an abnormal respiratory sound—whatever term we wish to apply to it—legally compels us to inform the purchaser. Of course I am not referring to "high-blowing," which, as the veriest neophyte knows, is not a cause of unsoundness.

In connection with roaring, it is interesting to note that Robertson stated that "the position of the head and neck materially affects the production of the sound in some cases. An animal reined in for the canter may whistle or roar, while with the head free in the gallop, the slightest abnormal sound may not be detected. It is consequently advisable to always examine horses with a snaffle and curb, as in the one the animal may roar, while in the other no abnormal sound is emitted." Now this statement is one with which many practitioners will not agree, and the question arises whether it

is a fair test or otherwise. Surely if the horse is unsound of his wind the defect will be ascertained when he is galloped and subjected to exertion. Moreover, it is well known that perfectly sound horses may "make a noise" if the head and neck are kept in the abnormal condition indicated, especially if the rider has not "good hands."

The foregoing remarks are made with a view to eliciting information. Being in the unfortunate dilemma of having to write a section on "Whistling and Roaring" for the "System of Veterinary Medicine" which I am editing, I shall welcome any criticism or suggestions on the subject. My queries on a former occasion were so ably responded to, and proved of such marked assistance, that I venture to hope for similar help in this instance.

THE WAY OF THE WARBLE.

One is taught that the *Hypoderma Bovis* lays eggs which develop into larvæ under the skin of the back, and one is left to imagine how, when, and why this transformation takes place. Perhaps it would not be impertinent to ask the following questions, and to add here and there one's own comments on things as they are found sometimes.

Why do observers say that the first stage of larval development has not been seen, and then stultify their remark by saying that the larvæ have been seen leaving the egg in the œsophagus of their host?

Now the female fly is acknowledged to lay her eggs upon the hair in a similar way to her congener who affects the horse, and not to deposit them under the skin; and it is supposed that the larvæ get in through the sweat or sebaceous glands. Why this supposition? It is comparatively easy to catch them, *in flagrante delicto* if they do, but no one has done so. On the other hand they have been found leaving the egg in the œsophagus, and at a later stage they have been found wandering in the pleura, and among the costal muscles, and in the subcutaneous connective tissue of the sides and back.

Their mode of exit from the back is generally acknowledged to be a form of ulceration or necrosis commencing on the inner surface of the skin, and not to be a hole from the outside, which it ought to be, if it commences at the supposed point of entry. This being so, is it not probable that the intruder has arrived from the inside rather than from the out?

The subcutaneous damaged condition is spoken of as "licked beef," but as a matter of fact a good deal more licking takes place in other localities than directly over the back, and one does not find the peculiar condition in these places unless now and again one finds a solitary warble, which is looked upon as rather a freak for not being upon the back, while statistics show that this is by no means an uncommon occurrence, and where these warbles are there is an area that is "licked." Is this only a coincidence, or a case of cause and effect?

Next, take a typical warble and examine the seat of the larva, and in the majority of cases one will find leading away from this spot a direct tunnel through the connective tissue, generally tending downwards towards the sides rather than along the back, a tunnel that an ordinary probe can easily enter and follow for some little distance, when it becomes gradually obliterated. Is this the road by which the wanderer has been seeking his pole?

One knows of numerous instances of other parasites who select their abodes by a special selective faculty, and which are found in various stages of development on the journey to their eventual resting place. Is not one justified in applying a little common-sense and logical reasoning to the warble?

And one offers these points for consideration:—The larva is not found on the hair in its early stages; it is found in the œsophagus and pleura and subcutaneous connective tissue of the host, both in the earliest and succeeding stages; and where it is found in its later stages it is accompanied by a definite pathological condition of the tissues surrounding it, and by a very suggestive condition, namely, the tunnel.

Considering these facts one feels justified in agreeing with certain American and Continental observers in their hypothesis that the larvæ reach the back *via* the œsophagus, and not through the skin. But one would like a sufficiency of corroborative observations from others before laying down the law.

F. E. P.

DISLOCATION OF THE CERVICAL VERTEBRÆ.

Subject.—A six-year-old bay cart mare. I was called to see her at 7 a.m. on Dec. 26th, because she was unable to get up when the team man found her in the morning.

Symptoms.—I found her decidedly tympanitic, anus and vulva greatly swollen, apparently suffering great pain, sweating profusely, and showing no sense of feeling when her limbs pricked with a pin. The pulse was very fast, and difficult to take, and the temperature impossible to take owing to swelled condition of anus and vulva.

Prognosis.—Decidedly unfavourable.

Treatment.—I decided to put slings under her to see if she could stand when once pulled up on to her feet. As is usual in these cases, we had to have two or three men pulling on her tail, and an equal number on her head before getting her into a suitable position for slinging. When all was ready we began to pull her up, but directly she was raised about a foot from the ground her head dropped suddenly and she expired directly.

Post-mortem. The mere fact of her dying so suddenly made me suspect some unusual trouble, and as I was unable to make a post-mortem myself I left word for the slaughterer (a very skilful man at his trade) to send me the result of what he found. To my surprise he reported that the mare had complete dislocation of the 3rd and 4th cervical verte-

bræ, attended with great inflammation of all the muscles of the neck.

Remarks.—Undoubtedly the mare had cast herself in her box, so dislocating the cervical vertebrae and setting up symptoms of paralysis. Although I had allowed three men to pull her round by the head, the spinal cord did not sever until we began to sling her, when the weight of the head completed the dislocation.

W. WATERS, M.R.C.V.S.

Blofield, Norwich.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

ROARING AND WHISTLING.

[Adjourned discussion on Prof. Craig's paper.]

(Continued from page 436.)

THE PRESIDENT said he thought they should congratulate themselves on the paper they had had from Prof. Craig and also on the discussion it had aroused, not only on the previous occasion, but that evening. It was satisfactory to get the opinions and experiences of gentlemen in general practice. He was not a practitioner, and consequently had nothing to add to the discussion. He was only interested in the question from the point of view of pathology. He did not know that he could throw much more light upon it than had been done by other investigators.

He might mention, however, the result of an examination that they made into a 'roarer.' It was an examination they carried as far as possible in this particular animal. The investigations were not entirely completed, but some of the results they had were rather interesting. In the first place they found, Prof. Craig and himself, the heart of the animal was unusually large, flaccid, and dilated. He mentioned that as a fact they noted, and to be remembered. He made sections of the lungs and found nothing of any consequence and nothing abnormal.

They examined also the recurrent nerve in different parts of its course; at its origin, in its course in thorax, and in front of the chest, and also quite closely approaching its destination in the larynx. The nerve at its origin and in front of the chest was normal. There was a remarkable change which they did not understand as yet in the portion they examined of its course in the thorax. There was remarkable degeneration and disappearance of nerve fibres from the nerve as it was reaching the larynx. They examined the ganglia and found in the inferior cervical ganglion remarkable changes indeed, when compared with the inferior cervical ganglion taken from a normal animal. These changes were similar to those associated with the action of toxins. They were the same changes as had been recognised in people who died from chronic alcoholism. In some instances the nerve cells disappeared; and there were plenty of examples of degeneration occurring in other nerve cells. The nigroid bodies were disappearing or had disappeared, and the nucleus was displaced. The vagus nerve was normal, but there still remained to be examined the nucleus of origin. Other points he had already referred to were points of importance and interest, and they needed to examine other 'roarers' to see if they could find the same conditions as in the first case.

It was a most remarkable case, and they got it through the courtesy of Colonel Moore. It had been operated on some months ago, the ventricles having been stripped. The animal the next day showed remarkable symptoms of asphyxiation. The officers who had operated came to the conclusion that the only way to save its life was to perform tracheotomy. Changes occurred in the tracheotomy wound. The mucous membrane of the trachea

became thickened, and infiltrated, the lumen was so encroached upon that only a lead pencil could be passed. It was a pronounced roarer. The larynx had also undergone a remarkable change. Some of the cartilages were not only ossified but bulged outwards—convex—on each side, and before the removal of the muscles it looked as if the thyroid gland had moved upwards. He was pleased to note that Colonel Moore, who could not be there that night, had promised to place at their disposal other roarers from the army, and possibly they might report to the Association the result of further investigations as to the changes occurring in the ganglia and other organs.

He would be glad if it would be possible for practitioners, if they had animals that died, if they would obtain for them the ganglia and nerves, labelling exactly the position from which the piece of nerve was taken. It was only in investigating a large number of such cases that one could arrive at a true conclusion as to the pathology of the disease. He thought there were indications that the condition was due to some action of toxin on the nerves—it might be from strangles, influenza, catarrh—but at present they had found something in the ganglion cells. They had yet to demonstrate further. (applause)

PROFESSOR CRAIG said he was indebted to those who had attended the meeting, but he was sorry there were not more present to give their views. It was a most interesting subject. Mr. McKenny and others had referred to the error into which practitioners might fall in examining horses, because a sound might be produced if the head was bent upon the neck, or some alteration made by the reins, and it seemed to him that it was a very important point which was not sufficiently impressed upon young practitioners. It was a point which must always be kept in mind.

Mr. McKenny in his remarks considered that the sound produced in roaring was caused to a great extent by the arytenoid cartilage. But he (Professor Craig) maintained, as he did in his paper, that it was caused chiefly through the vocal cords. His reason for saying this was that the sound was made during inspiration. The left arytenoid cartilage of a roarer did not move in respiration. That might be seen when the larynx was opened for operation purposes. That the sound was abolished by arytenoidectomy was due to the fact that the vocal cord was fixed to the arytenoid cartilage. The thyro-arytenoid ligament, which formed the essential portion of the cord, was thus slackened, and the air could not pass into the ventricle as in ordinary course.

Another question which Mr. McKenny asked, and which he tried to explain, was the cause of the variation in distress observed in the course of the disease. Some horses that were roarers were not much distressed even after severe exercise; although they made loud noises they were able to win races. Other horses were remarkably distressed after only a moderate amount of work or exercise. What was the reason? The principal reason was that the larger proportion of distress was caused by an affection of the heart. It was quite possible, although it was not right to judge from one case, that the degeneration which the Principal had found in the cervical sympathetic ganglia in connection with the case of roaring that he had mentioned might account for the distress which was particularly noticed in some cases; and again by its bearing upon the action of the heart and circulation generally.

As for the production of the disease through an affection of the lungs or stomach, he did not know that any definite evidence was to hand. No doubt the disease was produced by certain foods, as for the example the mutta pea, and in that case one might take it the food materials must have acted after they were absorbed upon certain portions of the nervous system, and so indirectly on the larynx.

He agreed with McKenny that it was an error on the

part of a Veterinary Surgeon who rejected a horse because it had a fine neck. They could not say that if a horse had a fine neck he was a roarer, or was going to be a roarer. It had been the case that some roarers had fine necks, but it was hardly fair to put it down as a law which was to be followed.

Mr. Allen had referred in flattering terms to the paper that he had written, and he thanked him for his encomiums, coming as they did from such an able and experienced veterinary surgeon.

Mr. McKenny referred to the fact that horses which sometimes became roarers were handled so much upon the left side, and suggested that that might have some effect upon the production of the disease. It was difficult to give an opinion upon that point. The investigation that was made in the case of the particular horse to which the Principal referred suggested toxic action rather than defective handling in the production of the disease.

He noticed in that case a peculiar point. The opening in the trachea was only sufficiently large to admit a lead pencil, yet the horse was able to trot and canter. It was remarkable that such a small passage would permit of such severe exercise on the part of the horse.

Another curious thing was that the horse was chloroformed to death, and died quickly, really from asphyxiation. In casting horses for diseases or conditions which did not conform to the definition of roaring, it might perhaps be better to consider that they suffered from some respiratory disturbance or defective respiration. If a horse was put down as a roarer or a whistler it was nearly always regarded as such for ever afterwards.

Mr. Howard also referred to the action of such agents as strangles and diseases of the larynx, and said they were not of themselves the exciting cause, and with that he agreed. Horses might be 'roarers' or 'whistlers' which had never been affected with strangles or other diseases. The point of interest here was that horses that were 'roarers' and 'whistlers' had been taken to certain climates, and the progeny of these horses had remained sound. If the same horses had remained in this country, and been kept for stud purposes, the progeny probably would have become unsound from the same condition.

Mr. HOWARD: Had these diseases existed in those other countries?

Prof. CRAIG: Oh, yes! The answer was that the other climates were dry, and the animals were not affected to the same extent.

He was interested in the cases referred to as complete paralysis of the nostril, and the spasm of the larynx. He thought that in future practitioners would assist them in trying to investigate further this important condition if they sent any cases found at post-mortems. They should be sent in fresh condition, so that they could make something of them (Applause).

VOTES OF THANKS.

Mr. WILKINSON proposed a vote of thanks to Prof. Craig for his excellent paper, which they had had an opportunity of so fully discussing.

Mr. HOWARD said that it was almost unnecessary to second it. Every member was not alone thankful to Prof. Craig, but they actually felt proud of the paper. He thought that the paper would be a landmark in the future history of the question of roaring and whistling with the veterinary profession. He was sure Prof. Craig must have had a lot of trouble in preparing it, and he hoped that some day they would wake up and find that he had discovered where they were about roaring. (Applause).

The motion was passed with acclamation.

Prof. CRAIG said it was a pleasure to write the paper, and he read it in the hope of getting information. He prepared it in order that they might have some definite

views put forward on the subject, and to hear the views of Irish veterinary surgeons on the matter. He knew they paid particular attention to the diseases of respiratory organs in examination of horses for soundness. He thought therefore that was the best place at which such conditions should be discussed (Applause).

Mr. DUNLOP proposed a vote of thanks to the Chairman for his conduct in the chair. He was pleased to hear his remarks about toxin and the recurrent nerve leading to the larynx. He mentioned a case which came into his yard of a valuable horse which contracted influenza and rather suddenly became unsound of its wind. It was a confirmed roarer and was never cured. This may have been an instance of the influenza toxin acting on a pre-disposed nerve and thus causing paralysis. The Chairman's remarks had been most instructive (Applause).

The motion was passed with acclamation.

The PRESIDENT briefly acknowledged the compliment, remarking that it was always a pleasure to come there, as he always learnt something.

LANCASHIRE

VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the Grand Hotel, Manchester, on December 7th. the President, J. W. Brittlebank, Esq., Manchester, in chair. The attendance included Messrs. Woods, McKinna, Clarkson, Sumner, Wolstenholme, Burndred, Share-Jones, Holroyd, Wright, Whitehead, Lloyd, Giblin, Edwards, Price, Walker, Mattinson, Prestner, Stent, Munro, Holburn, Ackroyd, Ingram, Wilson, Ellis, and G. H. Locke. Visitors: Messrs. Hornby, Spreull, and Turner.

Apologies for absence were received from Messrs. Annett, Carter, Abson, Taylor, Faulkner, Packman, Hobday, Pillers, Lawson, and R. Hughes. It was explained that Mr. Taylor was absent on account of illness, but that he was much better, and thanked all friends for their kind enquiries.

Mr. SHARE-JONES proposed, and Mr. Holburn seconded, that the minutes of the last meeting be taken as read. This was adopted.

Nominations. Messrs. W. H. BRIDGE, Bolton; E. R. EDWARDS, Board of Agriculture, Manchester; A. RICHARDSON, Liverpool; J. Spreull, and H. A. TURNER, Manchester, were nominated for membership by Mr. Locke.

The SECRETARY (Mr. Locke) reported having written to Mr. Worthington, Wigan, asking him to reconsider his proposed resignation, but no reply had, as yet, been received.

Letters of acknowledgment from the families of the late Prof. Williams and Mr. H. D. Chorlton were submitted.

A letter from the Editor of *The Veterinary News* was again submitted in reference to their fund for assisting a member of the profession in the appeal raised by the London County Council to compel veterinary surgeons to pay for the use of the College crest. When previously submitted the letter was referred to the Council of the Association for consideration. Mr. Locke reported that the Council had no recommendation to make on the subject.

Mr. LLOYD proposed that a subscription of £2 2s. be made. Mr. Holburn seconded, and the proposal was carried.

ELECTION OF OFFICERS.

President. Mr. Wolstenholme expressed pleasure in proposing that Mr. BRITTLEBANK be asked to retain the presidency for the coming year. There were many reasons why he thought they should do this, primarily because of

the excellent manner in which he had carried out the duties in the past year, and also because in the coming year, when the Association celebrates its jubilee, more work would be thrown upon the officers than usual, and it was therefore desirable that they should have a President who is used to the office. Mr. Woods seconded the proposal which was carried.

Mr. BRITTLEBANK returned thanks for the renewal of their confidence, and expressed his intention of doing everything possible to further the interests of the Society.

Vice-Presidents. The Council recommended that the following gentlemen be elected: Messrs. Taylor, Faulkner, and Wolstenholme. Mr. Locke proposed this, Mr. Lloyd seconded. Carried.

Hon. Treasurer. Mr. Woods stated that the retiring Hon. Treasurer, Mr. Packman, had, at a recent Council meeting, expressed a strong desire to relinquish this position, his reason was that these meetings clashed with the meetings of his Masonic Lodge. It was very necessary that the Treasurer should be present, and whilst they would be sorry to lose Mr. Packman's services in this respect, they ought to meet his wishes and accept the resignation. That being so he proposed that Mr. Stent be appointed Hon. Treasurer. Mr. Locke seconded. Carried.

It was decided that a letter be sent to Mr. Packman thanking him for his past services and stating that his resignation had been accepted with regret.

Hon. Secretary. The President said he wished to have the honour of proposing that Mr. Locke be re-elected Hon. Secretary. They had an onerous year in front of them and could not do better than stick to the man they knew.

Mr. SUMNER had great pleasure in seconding this. Mr. Locke, he said, was the most desirable man for the post, and they could not possibly think of another. Carried.

Mr. LOCKE, in thanking the members, reminded them that he was now entering on his fourteenth year of office. His desire had been to continue until their jubilee, and, as this occurred next year, he dropped the hint that it was his desire to relinquish the position at the end of the ensuing year.

Hon. Auditors. Messrs. Faulkner and Taylor were re-elected. Proposed by Mr. McKinna, seconded by Mr. Wolstenholme.

Council. Mr. Locke said it was proposed to make a slight change this year in the Council, for the reason that the three Vice presidents were already members of the Council. That left room for three other persons, and it was proposed to add the names of Messrs. McKinna, Clarkson, and Munro. This was adopted.

OTHER BUSINESS.

Mr. LOCKE reported that the Council had duly considered the suggestion that the date of the April meeting be altered, owing to that date clashing with the Council meeting of the Royal College of Veterinary Surgeons, and they recommend the Association to hold their first quarterly meeting on the third Thursday in March instead of the first Thursday in April.

Mr. LLOYD gave notice of motion that the recommended alteration be carried into effect.

Annual Dinner. It was decided to have an annual dinner as usual. A suggestion that ladies be invited did not meet with support.

Entertainment Fund. Mr. LOCKE wished to thank those who had so generously responded to the circular on this matter, and said the committee would be glad to hear from those who had not yet responded.

RETENTION OF THE PLACENTAL MEMBRANES.

By Mr. W. ACKROYD, M.R.C.V.S.

This condition is one of interest and importance, owing to the commonness of its occurrence and to the loss it causes to cattle owners, especially in dairying districts. It is not associated with a large number of fatalities, but the loss in condition, loss of milk, and various chronic conditions resulting make it of sufficient consequence to those concerned. It also has some significance from a public health point of view.

The condition needs no description at this point as it is not a question of difficulty in recognition, excepting a few cases of dispute where improper steps may have been taken for concealing the fact in cows offered for sale.

I find it very unsatisfactory to take a review of the alleged causes of this retention. Those most commonly quoted are abortion, chills, exhaustion from travelling, etc., previous to parturition, prolonged parturition, difficult parturition, precipitate interference with parturition, and any debilitating condition.

In addition to those above stated, I find that laymen believe that a cow having retained the membranes once is more likely to do so at the next calving, also that many allege that one case is often followed by others, this suggesting that it may be a disease *per se*, and be due to some special infection.

Finally it may be stated that in some cases, the membranes may be retained after separation of the cotyledons, either from inertia of the uterus, contraction of the os uteri, or very rarely some other mechanical condition.

But the very varied conditions thus frequently alleged may not be present at all, and in many cases the retention takes place in animals carefully treated and apparently otherwise in a normal condition.

To arrive at a useful conclusion in this matter it will be well to look more closely at the essential condition of retention; that being surely, that the union between the fetal and maternal cotyledons is retained, instead of the disengagement which usually takes place at birth or very shortly afterwards.

The branched villi of the cotyledons of the cow would seem to offer more likelihood of retention than the simple villi on the chorion of the mare.

Physiologists, so far as I have been able to find, offer little information as to what takes place immediately following birth, it being stated that expulsion of the membranes follows, and results from contraction of the uterus.

But the uterus may be contracted without the membrane being expelled, and one would like to hear what is known of the more intimate changes which take place between the maternal and fetal cotyledons in normal cases. One finds very varying degrees of intimacy between the cotyledons when removing the membranes, and whatever is the cause of this must surely be in relation to the actual reason for retention; and the many varied conditions named previously may be dismissed, at any rate as actual causes.

Condition of Animals Retaining the Membranes.—As stated above, there is not a large proportion of fatalities, the results commonly found being:

1. Loss of condition. Animals which continue to feed well will lose condition, whilst those with marked fever lose flesh very rapidly.
2. Loss of milk. Sometimes to the extent of lessening usefulness through the milking period.
3. Various sequelae, such as septicæmia, pyæmia, metritis, in some cases metro-peritonitis, and in others an endo-metritis.

4. Debility, as from diarrhoea, or following the high temperature, and loss of appetite.

5. Leucorrhœa. This follows almost invariably if the membranes be not removed.

6. Possible danger to health of persons using milk.

Symptoms.—These vary with the length of time the membranes have been retained since calving. In most cases some portions of the membrane are hanging from the vulva, though in others none may be visible, but a discharge of varying offensiveness is noted.

Very early the temperature rises and may be 101.5-6, pulse is more frequent but varying in character. Appetite flagging, and in bad cases suspended. The tail is switched about, and in advanced cases, or where there is vaginal irritation, the back may be arched; with suppressed moan in severe cases with uterine complications. The condition found in the vagina and uterus may be noted when dealing with removal of the membranes.

Treatment.—Formerly much faith seems to have been placed in various cleansing drenches, but these do not find much favour nowadays. I have never noticed any drug to have any effect in expelling the membranes. Ergot, mugwort, savin, laurel berries, mag. sulph. have been used in the manufacture of cleansing drenches, and some have been much praised. Some practitioners give various tonic and febrifuge medicines whilst waiting for the membranes to come away, or till they yield to simple traction on the hanging portions.

But the treatment most commonly practised to-day is manual removal of the membranes, with medicinal treatment to follow, as symptoms may seem to warrant. A good deal of discussion has taken place as to the most suitable time for this removal, but it might surely be suggested that the choice of time should be dependent on two things:

1. The earliest period at which removal can thoroughly and safely be made; and
2. That, if possible, removal should take place before there has been time for any septic mischief.

Some advocate the removal so soon as it is apparent they are being abnormally retained, and thus favour removal in the first 24 hours. Others do not believe in separation of the cotyledons, but wait six or seven or more days until decomposition may enable the membranes to be simply drawn out.

Personally, I have found it impossible in the majority of cases to remove the membranes perfectly within the first 24 or 36 hours; the extent of the uterus at that period, and the intimacy of the attachment of the cotyledons offer obstacles to the operator. For some time I have removed them about the third day, and find that the uterus is more easily reached to its full extent and the fetal cotyledons are more easily separated than at an earlier period. Nevertheless, if removal at the earlier period, say 24 to 36 hours, could be always properly effected, it would be preferable to waiting even three days.

When removing the membranes care should be taken not to add to the infection already present in the uterus, and to this end a good supply of clean hot water and antiseptic preparations should be at hand. Of antiseptics I prefer the various emulsifying tar preparations, as the mixture is lubricant to some extent. Some find it necessary to very carefully put various antiseptic preparations on the arms before starting, as infection of the operator sometimes takes place. Personally, I thoroughly soap the arm, as it is thus very easily cleaned (as it has frequently to be in all cases), and I have had no personal trouble from infection.

The tail and vulva should be carefully cleansed, and the vagina too should be examined, as in some cases of vaginitis it may be advisable not to insert the hand. When the os uteri is reached, it may occasionally be found, even in two or three days, to be tightly and closely contracted, and may need to be dilated with the fingers

before the hand can be passed into the uterus. In some cases the membranes may be held by the contraction of the cervix after detachment of the cotyledons has taken place, and in these cases removal is accomplished at once. When passing the hand into the vagina and uterus the mass of membranes should be gathered up with the other hand, so that assistance may thus be given.

Very varying conditions are found in the uterus. In some cases the membranes are much shrunk in bulk, occasionally they are cedematous, whilst sometimes, even in two or three days, they are broken up and can only be removed in pieces along with the fluid portions. The fluid found varies very much too, being either thick and even the consistence of gruel, or thin and often abundant and very fetid. To the operator the main point of interest is the number of cotyledons still attached and the nature of their attachment. Occasionally one finds only a few cotyledons need to be released, and the mass is then free, but in the great majority of cases the cotyledons all remain attached. The intimacy of this attachment varies too, sometimes attachment is easily and quickly accomplished, whilst, again, great care and patience are needed, and even with that every portion may not be removed. Another difficulty often met with is in reaching the extreme end of the uterine horn and in separately dealing with the cotyledons there. One often finds that in some cases the maternal cotyledons come away, but it will be found that necrosis has taken place, sometimes in a considerable number of them.

Owing to some of the above difficulties, it will be found that in some cases portions of the membranes cannot well be removed. Following this removal comes the question of the immediate treatment of the uterus. In my own practice the uterus is swabbed out with a soft clean cloth soaked in some antiseptic, and if a large amount of fluid is present it may be scooped out with the hand. Formerly I used to irrigate the uterus with antiseptic fluid, but I have long ago dropped it, finding it difficult to remove all the fluid, and the portion retained quickly became septic and caused increased mischief. On the other hand, swabbing out as described above induces contraction of the uterus and expulsion of contents.

Uterine suppositories may be used, but I have not used them sufficiently to have any very decided opinion as to their value in these cases, though I have found them useful in certain cases of vaginitis.

Medicinal Treatment. This should be guided by special conditions presented. Salicylate of soda, quinine, hyposulphite of soda, nux vomica, with various tonics may be given as thought necessary.

Use of Milk. This matter can only be dealt with satisfactorily by capable examination of the milk, and experiments as to the effects of its use. It seems to be a question for the bacteriologist. If local authorities prevent the use of the milk it seems reasonable to expect some compensation, and I should like to hear from you if any such action is taken.

Legal Aspect. I think the law is clear as to the liability of a seller for a cow not properly cleansed, but in one or two cases I have seen unexpected difficulty as to proof of the conditions, and of course very varying evidence as to inferences to be drawn.

Finally, I should like to put some questions to you as a review.

1. What is the cause of the cotyledons not disengaging?
2. Any other method than those mentioned to remove them?
3. What is the nature of the varying infection which takes place?
4. Is there any special infection which can cause this condition?

5. What is the effect on the milk, and what is to be done with regard to it?

DISCUSSION.

The PRESIDENT remarked that they had listened to an instructive paper on a very interesting subject. He hoped to hear a good discussion.

Mr. WOLSTENHOLME asked what objection there was to removing the placental membrane at the time of calving, other than the physical difficulty?

Mr. ACKROYD replied there was none.

Mr. PRICE thought the subject had been very well traversed. He used to irrigate, but found there was a lot of straining. He found it impossible, in a great number of cases, to remove the membranes immediately, but thought from the third to the fourth day was about the best time. He found in a number of cases that it is quite the habit of Irishmen when they come to the fairs with fresh calved cows to cut off the "cleansings."

Mr. LLOYD thought a difficult question had been put to them as regards the causes of retention. Mention had been made of the effect of chills, and from his experience this had much to do with it. It had been his lot to watch carefully, and to take the placenta from cattle that had calved normally, as well as from difficult cases, and he found if the cow had retained the membranes she was either opposite an air inlet, window or door. The best means to get a cow to part with the membranes after calving was, in his opinion, to cover her up and get her to lie down. Comparisons had been made between the mare and the cow and sheep, but the anatomical condition of the cotyledons was different. As regards the use of the milk, he thought this undesirable. He was certain that milk had a tendency to take up bad smells, and at such times was liable to contamination. Of course it was probably not milk at this stage but "beastings." In respect to the milk supply, he had no doubt that the President would bear him out when he stated that 10% of mixed milks taken for the purpose of testing by the inoculation test for tuberculosis caused death in the inoculated animals within a very short period. Possibly a percentage of these might be due to sepsis introduced during retention of the membranes.

In reference to the cutting off of the placenta, it was usual in Scotland to sell a newly calved cow as being "correct."

Mr. MATTINSON asked whether it was some bacterial infection that caused the retention of these membranes? Mention had been made of cows dying from exhaustion, but he thought it would be probably more correct to say that toxæmia has caused death. As to "hurried breathing" being a symptom, he would go further, and say grave lung trouble is present. For removal of membranes he thought moderate traction to be useful. He never used irrigation unless compelled by the owner.

Mr. MUNRO said he frequently practised irrigation, but always took care to remove all the fluid from the womb, and for this purpose he used a sponge. He had not had bad results. He usually left the removal of the membranes until the fourth day.

Mr. SUMNER thought one of the points arising out of the subject was whether retention of the fetal membranes can be infective—can it cause other cows to hold their membranes? He would hesitate to say that such a condition might arise, but they would all agree as to the desirability of treating these cases as if they were injurious to other animals, particularly if they are in process of lactation. They knew that where they got one retained cleansing in a herd they would get more. As to traction, he had been taught and practised the removal of the cleansing by winding it round his arm with the object in so doing of getting some traction and

reaching the furthestmost portion. For some time he had ceased irrigation.

Mr. MCKINNA regretted to differ from the general tone of the discussion, but he felt bound to say that in his practice irrigation had been successful, and he had seen no untoward results. He commonly found that he might have to irrigate on three successive days, but of course he took care to remove as much of the fluid as possible.

Mr. WOLSTENHOLME looked upon irrigation of the womb after parturition as being a case of blindly following the medical profession, but the conditions are absolutely different. It is one of the best things possible in the human patient, but in the case of the mare or cow it is not well. He thought it hardly correct, when speaking of the lower animals, to use the term placenta or placental membranes.

It occurred to him that a great deal of the trouble experienced with the cow in calving as compared with the mare and sheep and other animals was due to what he would call unfair treatment of the cow. Often it was merely turned into a milking machine; it got insufficient exercise, its food was given more with the idea of producing milk than maintaining life, and altogether the surroundings of the cow are such as predispose to trouble during parturition and subsequent period of lactation.

No one had mentioned cases of post-partum hæmorrhage. He failed to see why the membranes should not be immediately removed after parturition. In the human subject it was considered bad practice to leave any portion of the membranes. With respect to chills he said they could get these from within as well as from without. It appeared strange to him that an animal coming to the parturition act under the conditions to which she was quite accustomed as regards ventilators, etc., should have retention of membranes attributed to these causes.

The PRESIDENT wished to add his mead of praise for the excellent paper. Those of them in public offices were not expected to know anything about practical matters. They were there to look on and admire their brothers in private practice, and of course hesitated to venture any opinions on their sacred precincts. They had, however, some experience of private practice in country districts, and remembered some of the things they used to come in contact with very much oftener than they wished. He confessed to being in the dark as to the cause of the retention of placental membranes. He thought that difficult parturition and consequent atony of the organ had much to do with it. With regard to necrosis, he had seen this frequently, but had looked upon it as having nothing at all to do with the actual removal of fetal membranes. He thought that a possible explanation was that partial necrosis commenced before the actual parturition.

As inspecting officers they came into contact with imported cattle in regard to which it was difficult to say whether they were suffering from tuberculosis, or other conditions characterised by wasting, or due possibly to some transient cause. Mr. Lloyd had referred to the fact of 10 per cent. of animals inoculated with the sediment of mixed milk having died rapidly from septic infection. This was not the history in Manchester now, and had not been for many years. He could hardly agree with Mr. Lloyd when he attributed septic infection introduced from retention of the fetal membranes as one of the main causes. As a matter of fact in the early history of the supervision of the milk supply in Manchester, many of these so-called infections had been followed up, and in a fair percentage of cases Professor Delépine was able to come to the conclusion that dirty conditions, polluted water supplies, and purulent conditions of the udder were the main causes.

He was glad to note that Leeds had decided to pay

compensation to farmers in view of their excluding from the milking herd cows with retained fetal membranes. Leeds was always progressive; they had not thought fit to pay such compensation in Manchester. It was easy to talk about compensation, but possibly the better plan to pursue would be to compel isolation, and at the time when farm buildings were erected to see that sufficient accommodation for this purpose was provided. At present, of course, provision for isolating animals was, on most farms, entirely inadequate. He would like to say that they had no power to prohibit the use of milk from such cows, but he was quite certain that if such milk was sold it could be only in very small quantities.

A cordial vote of thanks was passed to Mr. Ackroyd for his paper, proposed by Mr. Lloyd, seconded by Mr. Burndred.

Mr. McKINNA proposed, and Mr. Burndred seconded, a vote of thanks to the retiring officers.

The PRESIDENT, in reply to this vote, said that the best thanks their officers could have was to see such a large number of members attending as were present that day, and he hoped that it was merely an indication of an increase of interest in the business of the Association.

WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

A meeting was held on the 21st October, within the Religious Institution Rooms, Buchanan Street, Glasgow. The attendance was a very good one, the following members and friends being present: Principal McCall, Principal Bradley, Profs. Gofton, John McCall, Messrs. Macfarlane, Begg, Roy, Weir, Reynard, Brown, Robertson, Douglas, McIntyre, Forbes, McMurich, McDougall, Scott, Mitchell, and final year students.

Mr. James Macfarlane, the President, occupied the chair, and when the minutes of last meeting were read and approved, Mr. Roy asked the whole meeting to join with him in asking that the Secretary insert a note in the minutes to perpetuate the memory of the late Robert Miller, of Strathaven, our esteemed friend and fellow member, who died since our last meeting here; and also send a letter of condolence to Mr. Miller's widow, to all of which the members were at one with Mr. Roy.

The PRESIDENT then asked Mr. Gofton to explain further the position of the "proposed reconstitution of the National Veterinary Association and Union of the Societies, as this meeting was now about to discuss the advisability of promising to become affiliated to the new Association.

Mr. GOFTON said this scheme had now been before the Societies for a number of years, and the National had had it under consideration for two years, and they had now agreed to the amended rules with very few alterations indeed, and they would be adopted by them at the March meeting of next year (1912). They were now in a position to ask this and other Societies their position with regard to the amalgamation—whether they intended to join or not.

The PRESIDENT said that as this was one of the best meetings they had had for some time he considered it should be put to the meeting, whether for or against: in his own opinion it was a very wise thing to have a strong Society; it was specially good when any Parliamentary matter was brought up, as instanced by the Insurance Bill and the Medical Association at the present moment. He then moved that we go on with the reconstitution scheme, and moved that "we as a Society should affiliate to the National as reconstituted."

Mr. BEGG seconded, and said it was certainly our clear duty to join this Society, and on the motion being put it was carried unanimously.

Mr. ROY pointed out that they would certainly have to score off a great number of old non-paying members and for a meeting or two it had been so poorly attended it was sometimes difficult to get a quorum.

The SECRETARY then read a letter from *The Veterinary News* regarding the case now pending London County Council *v.* Kirk in which the use of the veterinary crest on stationery was claimed as being taxable; and asking our support.

The meeting considered it would not be a good plan to fight over the matter with the County Councils, as it would only give more publicity and tend to further actions being taken.

Mr. BEGG proposed that £1 1s. be sent; it was evident from the communication that some expenses had already been incurred, and it was the County Council who were forcing the matter and not Mr. Kirk. Mr. WEIR seconded, and the motion was carried.

The chair was then taken by Mr. Hugh Begg, an ex-president.

HORSES SUITABLE FOR HEAVY CITY WORK

MR. JAMES MACFARLANE, M.R.C.V.S.

Gentlemen.—I am not going to inflict on you anything so painful as an old-fashioned Presidential address from me would be. It was not my intention to address you to-day at all, because I was hopeful of getting some specialist in a particular branch of our profession to give a lecture, or demonstration on his own subject. But a fortnight ago our respected friend and Secretary, Mr. Mitchell, informed me that I would have to deliver my presidential address. On thinking it over I came to the conclusion that the best way of fostering interest would be to deliver a few remarks on such a subject as the one I have chosen, with the intention and hope of inaugurating an effective discussion.

The title "Horses suitable for heavy town work" involves a big field, and much can be said, but in a lecture such as this, I know I will be pardoned though I only deal with it superficially. I claim for my subject that science has done very little to enlighten us, and that where we can get really reliable information is from men who have made it their life's study, and have stored up their experience. When we leave College, proud of the magic letters we are entitled to use, we have very decided views on the "soundness" or "unsoundness" of the horse, but I venture to think we all of us have considerably changed in our views since that time. At the outset, I wish to remind you that what I have to say relates to heavy or slow work horses.

The Clydesdale is in many respects the ideal horse for heavy town work; but are not the present showyard fashions playing havoc with their size and strength of bone? Is not a "good" big horse always a third more valuable than a "good" medium-sized one? How are our breeders to regain and maintain size? Can it be done by breeding only from big dams and sires, or do certain strains of the Clydesdale, independent of the size of dam and sire, invariably produce big geldings? Many present-day fashionable Clydesdales are too pampered to produce hardy town animals, and there is not enough attention paid to the food of young stock so as to help their growth.

Would serving our biggest mares with a comparatively clean boned, scant of hair, Shire stallion be a benefit? or would better results accrue from importing big sized, bouncy, clean legged Shire mares, and crossing them with a Clydesdale sire specially good of his legs and at the ground? Would the resultant crosses, if bred from,

still give us a blend, or would they throw back to either the Shire or the Clydesdale?

My experience of pure-bred Shire horses in our hilly towns of Scotland has not been satisfactory, and I know that in Newcastle-on-Tyne, where there are very steep streets, the Clydesdale compares more than favourably with the Shire. Shires go up quickly on their hind fetlocks; as a class they are too slow in their work to suit Scotch contractors, and in addition they are more subject to grease and weeds than the Clydesdale. If you do get a good, big-sized Shire, seasoned to his work, owing to his great bulk he is the ideal for shifting heavy weights such as boilers and castings.

There is still another distinct class of horse in considerable demand, namely, the heavy gyp horse; clean, sharp, and hard of his bones, devoid of long hair on his legs, and of prepossessing appearance, suitable for merchants' lorries, where he has to draw a fair load and cover a great amount of ground during his daily rounds. The heavy American gyp, that was freely imported into this country until about nine years ago, was the ideal for this class of work, and had our contractors here treated them better—by giving them easy work until they were acclimatised—there would have been more of them on our streets to-day. I know many of them that have withstood the strain and stress of 8-15 years of hard town work and are as fresh on their legs to-day as when they were bought.

Their points, *par excellence*, were, they had big, sound solid feet, their bones are like flint, they had a long, free, springy step, were remarkably round with well sprung deep ribs, they were easily kept and always locked well, and were genuine workers.

Clean boned Clydesdales, Irish-bred gyps, home cross-bred gyps, and a few pure-bred Suffolks are at present doing this class of work, but I am convinced none of them are as satisfactory or wear as well.

I often wonder if a similar breed could be established in this country by importing breeding animals of the Percheron type, either from France or America. Again, it has occurred to me, would not Suffolks improve if bred in our hardy more severe climate? I am convinced a breed of gyps would pay the farmer, because they would be of a type and size to suit his work, and when ready for town work would meet with an eager demand, at prices varying from £55 to £80.

Apart from the soundness, breed, and quality of an animal, he must be a genuine true worker, or his value to the contractor is *nil*: the horse that, to use a popular phrase, "will draw at a growing tree," is invaluable—provided he is given a capable careful driver; but it is usual that the willing beast gets the work to go, and thus many a good sound animal of this class becomes decrepit before his time.

Temperament, and the manner in which a horse is broken to work, play an important part in determining his future usefulness. Temperaments may be divided into three classes: 1st, phlegmatic, slow and easy going; 2nd, nervous—active; 3rd, medium, which is a blend of the other two.

The phlegmatic horse is good for slow work and is easily kept. The nervous horse may do well on regular routine work with a calm, even-tempered driver, but he cannot stand changes of driver or work. The medium-tempered animal is the one which pays its way best, having a certain amount of temper and being a dour worker.

Before considering my next point I wish to draw your attention to a deplorable practice that is spreading among our present day farmers, namely, the buying in of foals, colts, and fillies, instead of breeding them. It is a selfish course, and is to a great extent the cause of there being a shortage in our horse supply; and the economy of it can be questioned when one considers the price young stock is fetching.

Do our farmers give enough attention to the breaking and training of horses that are to be sold into town work? How many farmers own a lorry? Every farmer should pay as much attention to the training of his heavy horses as he would to a light horse intended for harness purposes. They should mouth animals requiring it; use them to handling a lorry, and if near a town accustom them to traffic and to walking on stone-paved streets.

Farmers make a grave error in not sending their horses to the smithy for attention every six weeks. How many horses do we examine with overgrown, broken, or defective feet due to this neglect? Farmers are hard to convince, but I am certain that horses, no matter how perfect and well grown they are, should be kept at farm work until five years old, and they would prove more satisfactory afterwards to the contractor.

Are the present laws relating to soundness satisfactory, including our liability as veterinary surgeons? A sound animal is one that is neither diseased nor suffering from the effects of disease that is likely now, or at a future date, to impair his usefulness. I think it would be far better if our clients would ask our advice as to the suitability of the animal for their work rather than tie us down to say sound or unsound, because many an animal, though sound according to legal definition, is defective in conformation and sure to prove unsatisfactory. Again, there are others unsound but, owing to their age, temperament, and conformation, are otherwise useful animals, likely to wear well.

Before going on to consider scheduled unsoundness, I would like to consider one or two phrases of conformation.

Undoubtedly the foot is the most important factor in determining an animal's usefulness, and the old adage "No foot no horse" should be continuously kept in mind. I do not like too big a foot, as blacksmiths are apt to mutilate them by cutting them down, thus saving iron. The under structures must be covered with solid, thick horn, the wall should be circular and of sufficient depth, the sole should be concave, the frog, quarters and heels open and well defined. In examining feet we should bear in mind how much they can be improved by regular and careful shoeing.

Is flat sole detrimental if well covered with horn and the horse has otherwise good feet?

Big, strong, well defined joints are valuable, even though they do handle a bit rough or uneven, provided the animal is a straight goer and flexes them equally well.

A useful animal should have his shoulders, forearms, thighs, quarters, and loins well and symmetrically covered with muscles.

Horses with sidebone associated with ringbone should invariably be condemned; but is sidebone alone an actual unsoundness, provided the animal is five years old and has good, big, open feet? About 50% of all horses bought sound develop sidebone sooner or later if put to work on our streets.

I have never treated a horse that was lame from sidebone pure and simple. We often get sidebone associated with sprain of the back tendons causing lameness, but as over 70% of the horses we treat for lameness are lame from sprain of the check ligament, or sprain of the flexor tendons, it naturally follows, owing to the prevalence of sidebone, that they are often associated. Again, in most of the severe cases of sprained tendons that I have been called to treat, the animals were clean at their hoofheads.

Horses with either high or low ringbone should be condemned. I do not think ringbone is common in the Clydesdale.

Is not keratoma a frequent cause of lameness in town horses, and how are we to distinguish between it and low ringbone, or even disease of the pyramidal process

I am of opinion side ringbone is not an actual unsoundness if present without being associated with true ringbone or sidebone. Many horses that walk intoed handle rough on the side of their pastern joints.

Splints on a heavy horse seldom impair his usefulness.

A horse with chronic shoulder-slip can with safety be bought for town work if there is no lameness present, and the animal walks with a natural, free step.

Curb is a rare cause of lameness, though I have treated it occasionally.

I seldom have occasion to treat bone-spavin lameness. In examining horses for soundness I prefer horses with rough, broad hocks to those of the smooth fine variety; and I do not object to odd hocks, provided the horse goes sound and flexes both joints equally well.

Many horses that have been made up for sale, therefore not in regular work, handle boggy and soft of the capsules of their hock joints. These horses can be purchased, and if the swellings do not disappear they seldom get worse. But if the swelling is hard and tense, and there is a certain amount of stiffness, then certainly condemn; because true bog spavin causes acute lameness that is most difficult to cure.

Stringhalt is uncommon. I would not pass an animal with excessive stringhalt, or one that shows it slightly every time it is turned, because they always tend to get worse; and besides being unsightly, they are heavy on hind shoes and liable to spring saucer cracks. Many horses show a quickness of their hind action when turned on stone sets for the first time, but I would defy you to make them do it once they get used to the hard slippery pavement.

A "shiverer" I would not buy, although it is remarkable how some of them wear. I know a pronounced shiverer that has been fourteen years in town work, and he still lies regularly and can back his lorry when required, and is a very true puller. I would like to know an infallible method of detecting "shivering" in the early stages.

Apart from shivering, many animals seem to suffer either from injury to the muscles of the back or injury to the spinal column, which makes them unable to back properly, or hold back their loads going down hill; and they are usually footless, but good workers forward. Our text-books give us very little information on this subject. Many horses that seem to work perfectly during their trial develop it after being put to hard work.

I reject all horses that are broken of their wind or roarers, but I pass all animals that grunt to a stick, provided they are otherwise sound of their wind.

We should always auscultate the heart after the animal has been trotted, to find out if the heart beat is normal and regular.

The molar teeth should be examined to see if they are regular and free from caries.

Finally, one should be very guarded in advising the purchase of a horse that has any abnormal swelling of one or more of his legs, for though it be slight, it is usually indicative of a previous attack of lymphangitis.

In conclusion, I may remind you that the perfect horse to-day may be imperfect to-morrow, and it is a blessing to meet with clients that thoroughly realise this.

DISCUSSION.

Principal McCALL said it was a most interesting paper, and on most points he was at one with Mr. Macfarlane, and there were many ideas in it that could be with advantage discussed, but he would confine himself to one point—the getting of size and quality. He had fifty years experience on the breeding of draught horses, and he certainly could not recommend the breeding with a Clydesdale mare and a Shire stallion, in fact the produce was invariably "weedy" and unsatisfactory

animals, but the result in breeding with a Shire mare and a Clydesdale stallion were often very satisfactory, and then a big useful animal, with some activity about him, in fact it was on those lines that Lawrence Drew brought up the Clydesdale to such perfection. But it is necessary to keep importing Shire mares, as the crosses are apt to throw back and breed poor stock.

Principal Bradley and Professor Giffon, before leaving to catch a train, eulogised the paper, but would like to have taken up some points with Mr. Macfarlane on the Shire horse, and also some points about lameness.

Mr. REYNARD said he had had the very opposite experience to Principal McCall in the breeding with a Shire mare and a Clydesdale stallion, but good results *vice versa*. He went on to speak on other parts of the paper, on shivering and the difficulty of diagnosing. With stringhalt he would condemn every case. He liked good strong hocks, but not odd hocks. He also spoke of contraction of the feet, and was in the opinion that the blacksmith was to blame for most of this in cutting down and out the heels. He also spoke of the difficulty of being able to get a sound horse, and to the fact of having seldom seen one thoroughly sound.

Mr. G. WEIR said he could not go the length of the last speaker, as he had many times seen a horse one could fault for nothing. He certainly took no notice of splints in a Clydesdale horse if over 5 years old. In the case of sidebones, he would not pass them if pronounced, especially if under five years old, but if over that age he might advise his client to purchase him at a price. Mr. Weir did not think that the country, or any other smith, was to blame for contraction of the foot; in fact no vet. could advise some country blacksmiths how better to spread them. Concussion was the cause of contraction; not paring down of the heels as stated by Mr. Reynard. He would have nothing to do with a shiverer, and only regretted that there was not some means of making a certain diagnosis of this and stringhalt in the latent stages. Ringbone he would pass on no account; he might pass a slight prominence if not around the joint. Of course there were other bad defects or vices in horses that had to be looked for, for instance, crib-biting and wind sucking.

Mr. McMURRICH thought it a very able paper indeed, and was at one with the President on the gyp type of horse for a long and hard day's work. The Irish gyp was one of the very best types we had in the market at present, and in his opinion was far superior to the Clydesdale. He said great stress was often put on soundness, but often a sound horse was a "useless brute" as far as work was concerned, and one of the soundest horses ever he had was also a useless "slug." In cases of stringhalt if the animal is thoroughly seasoned to hard work and not too badly affected he would be inclined to purchase him. If sidebone and no ringbone and the foot was a good, open one, he would be inclined to pass him—with the client's knowledge.

Mr. ROY considered the blacksmith was the friend of the farmer, and was in no way to blame for contraction of the horses' feet as suggested by Mr. Reynard. Mr. Roy attributed the scarcity of horses to the Colonial demand, young stock being sold as high as £150 for ordinary 2 year old fillies. He coincided with Mr. Macfarlane about side-bone, but if Glasgow streets were to be taken as a criterion the number of horses with sawn feet and ornamental firing—there were certainly men who had great expectations of reduction and cure of lameness from sidebone.

At this point, owing to the late hour, further discussion was stopped, and it was proposed to have the essayist's reply at the next meeting. Mr. Macfarlane, however, pointed out that it was better to have something new at each meeting.

Mr. MACFARLANE was pleased with the discussion, but owing to the shortness of time a lot of points were not taken up. He was pleased to learn he was not alone in most of his opinions. As regards the breeding for size, his opinion and experience coincides with that of Principal McCall. Regarding the contraction of feet he agreed with Mr. Weir, that concussion has something to do with it, although there were other factors at work. Mr. Reynard must have misunderstood the remarks regarding the country blacksmith: it was not the capability he was questioning, but it was the farmer that was at fault in not giving them the opportunity to look after the feet regularly. He was specially pleased with Mr. McMurrich's remarks, as they showed the opinion of a man who both treated and owned horses doing contracting work.

The SECRETARY then moved a vote of thanks to Mr. Begg for his conduct in the chair during the discussion, which was carried.

This brought a very interesting meeting to a close.

ROBERT MITCHELL, JUNR., Hon. Sec. & Treas.

FORMATION OF A VETERINARY ASSOCIATION IN KENT.

A well attended and representative meeting of Fellows and Members of the R.C.V.S. practising in the County of Kent was held at the County Hotel, Canterbury, on Wednesday, Jan. 3rd, under the presidency of Mr. Theo. C. Toope, M.R.C.V.S., of Dover, who was the instigator of the movement.

The CHAIRMAN, in the course of a brief address, said he had no need of apology for bringing them together, the replies to his letters, which numbered about 40, spoke volumes in favour of the scheme he would propose, nearly every one wished the project success, although a large number could not attend that day. He was a comparative stranger amongst them, and heartily thanked those present for their response to his call to arms. Coming into Kent some 11 years since, he had much missed the good offices of a Veterinary Medical Society, none being available nearer than London, and he could assure them that were they to unite, much could be done for the common weal of the profession, much that would be impossible by individual effort. If he wanted an example to force home his argument, let them look to the attitude of the sister profession in their endeavours to get fair play under the Insurance Bill; and there were many matters that needed collective action, not only by themselves as a Society, but by the whole profession. He instanced the treatment the general practitioner received at the hands of the Board of Agriculture, whose lay inspectors treated the members of the profession with scant courtesy and less consideration. Our position as meat inspectors was virtually lost, and unless we awoke from our semi-somnolent state the inspection of dairies and milk supply would follow suit.

Quackery, again, was more rampant than ever, and altogether the outlook was not a particularly bright one for the present-day veterinary surgeon. From a social point of view none could say but good would result from such meetings. He personally thanked Mr. James Crowhurst for his help in the organisation of this meeting, and concluded by proposing:—

"That the Fellows and Members of the R.C.V.S. now assembled resolve themselves into an Association, with power to add to their number, to be called the South Eastern Veterinary Medical Association: That they meet three times annually, alternately in East and West Kent: That the Society shall include a President, Vice-Presidents, Secretary, and Treasurer."

In reply to questions, Mr. Toope said he hoped it would be understood that its scope would not be limited to Kent. He had hopes of the cordial co-operation of the adjoining counties, hence the name he had suggested, but up to the present, as a matter of convenience, he had only sent letters to Kentish veterinary surgeons.

Prof. CAVE, dealing with the scope of the Society, said he thought its meetings should be restricted to the county, otherwise it might grow out of bounds as had done the Midland Counties, which though founded by his father in Nottingham, now rarely visited the county.

Mr. L. DIXON, M.R.C.V.S., also thought there was this danger, but suggested that an explanatory letter of invitation to join us should be given to Sussex members of the profession.

Mr. JAMES CROWHURST heartily greeted the proposal and seconded it. He considered such a Society had long been wanted in the district.

Mr. R. ROBERTS, F.R.C.V.S., and others supported, it was put to the meeting, and unanimously adopted.

ELECTION OF OFFICERS.

Mr. E. L. Dixon proposed Mr. JAMES CROWHURST, F.R.C.V.S., as the first President of the new Society, emphasising his remarks by stating that the name of Crowhurst had been honourably connected with the veterinary profession in this and the adjoining county for considerably over a century.

Prof. Cave, in the same kindly spirit, seconded the proposal, Mr. Roberts supported, and the proposal was enthusiastically carried.

Mr. CROWHURST then took the chair, and in a brief speech thanked them for the honour they had done him.

Vice-Presidents.—The following were then chosen:—Messrs. RICHARD ROBERTS, F.R.C.V.S., proposed by Prof. Cave, seconded by Mr. Huband; WILLIAM CROWHURST, F.R.C.V.S., by Mr. Roberts, seconded by Mr. Hogben; E. LYNE DIXON, M.R.C.V.S., by Mr. Hibbard, seconded by Mr. J. Crowhurst.

Hon. Sec. and Treas.—The President proposed Mr. THEO. C. TOOPE, M.R.C.V.S., Mr. Hibbard seconded, and Mr. R. Roberts, in supporting, said he had known Mr. Toope for a great many years in the North of England, and from what he knew he was certain he would do good work for them.

Mr. Toope was unanimously elected, and in thanking them said he hoped they all would as readily respond to his invitation to meet as they had done that day.

Committee.—Prof. CAVE, Wye; Messrs. EBBETS, Rochester; and HOGBEN, Ash.

On the proposition of Mr. Ebbets it was resolved that the first general meeting should be held at Canterbury the second Wednesday in May, at 2.30 p.m.

This concluded the preliminary business.

Mr. JAMES CROWHURST drew attention to the scale of fees allowed by the Kent County Council, which in many cases were utterly inadequate to the time and trouble expended. Taking as one example, the question of value in the case of glandered animals, the fee allowed by the Council was 7s. 6d. only, irrespective of the number of animals valued. Attendance at markets, cattle sales, etc. 2s. 6d. per hour only was allowed, which he considered insufficient; and the mileage also needed increasing to 1s. per mile one way. He had in the past got a slight improvement in that respect, formerly the allowance was only 6d. per mile, but by representing the matter to the Kent County Council they had agreed to raise it to 9d. He fully believed that were the whole of the Inspectors to meet and suggest an amended scale the County authorities would favourably consider it. He had received some time since a letter from the Clerk of the Peace, Mr. Prosser, who stated therein "If the officers affected who are not satisfied will send a joint representation to the County Coun-

cil pointing out in what particulars the present scale was inadequate, and stating exactly what allowances should be substituted, the question would receive due consideration."

Reverting to the question of valuation of animals, he maintained it was no sinecure, and not unfrequently led to unpleasantness between the V.S. and his clients, the latter frequently having an exaggerated idea of the value of an animal; and although he had repeatedly pointed out that the real value of a glandered animal was absolutely *nil*, it was not at all easy to give satisfaction.

Mr. R. ROBERTS thought the whole scale needed careful consideration by all the Inspectors. They were all now greatly indebted to Mr. Crowhurst for what he had already done for them, individually, at considerable personal trouble and expense. The inspection of markets often occupied six hours of their time, beside considerable out-of-pocket expense, six hours practically represented a professional man's day's work, which, according to scale, represented 15s. on monetary value. The time has passed when V.S. value their services at that price. He questioned if the veterinary surgeon ought to undertake the valuation of animals at any time, and probably by doing so they laid themselves open to action at law for acting as an appraiser or valuer without having first obtained a licence to do so, his duty was to act in conjunction with a valuer, and deal exclusively with the question of soundness. A very different fee would be demanded by a valuer than that allowed the veterinary surgeon.

Professor CAVE fully agreed with Mr. Crowhurst and Mr. Roberts on the need for revision of fees, and acting as he did as veterinary adviser to the Kent County Council he would give his hearty support to any suggestions coming from the inspectors collectively. So far he has only once been asked to advise on the question of fees, and on that occasion a satisfactory amendment was made. He agreed that the valuation of animals was not the veterinary surgeon's duty, he should act in these cases in his professional capacity, as a referee.

Mr. TOOPE stated that the question of fees had some years ago agitated the Inspectors of the West Riding of

Yorkshire, and by calling a meeting of them he was to some extent instrumental in gaining an all-round increase in the scale of fees, but not before a somewhat drastic method was adopted.

Mr. GILLARD was of opinion that in no case ought the fee to be less than 10s. 6d. whether we acted for County Council or Town Council, and that 1s. per mile should also be applied for.

After some further discussion, in which all present took part,

Mr. HIBBARD proposed "That seeing the question is of general importance we place on record our views on the inadequacy of the fees, in order to strengthen the hands of the veterinary inspectors who were not now present, in their attempts to get the scale of fees amended." This was seconded by Mr. Gillard, and unanimously adopted.

After a further general discussion it was resolved, on the motion of Mr. Dixon, "That the whole of the Veterinary Inspectors be invited to attend the next general meeting to confer in formulating a revised scale of fees more commensurate to the services rendered."

Mr. W.M. CROWHURST exhibited an interesting specimen of a fractured pubis from a mare who died some time after foaling, from another cause, a long time after the lesion had healed.

This concluded the business of the meeting. Subsequently the inaugural dinner was held in the Hotel, an exceedingly pleasant reunion, two or three of the members meeting for the first time since student days, some thirty years since. The usual loyal toasts having been honoured, that of "The President," proposed by Mr. E. L. Dixon, was most enthusiastically received.

THOS. C. TOOPE, *Hon. Sec.*

Foot-and-Mouth Disease.

The Board of Agriculture and Fisheries have made Orders withdrawing all the restrictions which were imposed by them on the movement of animals in connection with the recent outbreak of foot-and-mouth disease on premises at Tintinhull, near Martock, Somerset. The Orders came into operation on Wednesday.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Jan. 6	19		24				7	14	191	549	20	49	393
Corresponding week in	1911		10				5	8			27	31	316
	1910		36				5	12			50	32	90
	1909		22				8	33			27	34	188

* Counties affected, animals attacked: Essex 1, Hertford 3, London 3, Surrey 7.

Board of Agriculture and Fisheries, Jan. 9, 1912.

Outbreaks

IRELAND.	Week ended Jan. 6	1	1	...	...	...	...	4	21	3	17
Corresponding Week in	1911	...	...	...	...	...	...	1	8	4	85
	1910	...	...	...	...	...	...	4	27	...	...
	1909	...	...	...	...	...	...	2	11	...	...

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 8, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

CITY OF SHEFFIELD, REPORT OF THE CHIEF VETERINARY INSPECTOR, FOR THE YEAR 1910. [ABSTRACT].

Veterinary Staff.—During the year there was a staff of three qualified Veterinary Surgeons, occupied as follows:—In the inspection of dairies and cowsheds in the city and examining the udders of cows in the city cowsheds, or in country cowsheds from which diseased or suspected milk has been sent into Sheffield; in inspecting meat, meatshops and slaughterhouses; in carrying out the veterinary and administrative work in connection with the Diseases of Animals Acts; and in the veterinary supervision of the Corporation stud of horses.

Tram and other accidents.—Seven cases of alleged damage to horses, due to tram accidents, have been investigated, and reports made on each to the General Manager of the Tramways. In connection with some of these cases repeated visits had to be made.

Meat and Food Inspection.—Fifty-seven and a half carcasses of beef were condemned during 1910 as being affected with tuberculosis. Four were beasts bought by the butchers as sound animals, which when killed were found to be suffering from Tuberculosis; Thirteen and a half were the carcasses of cows whose milk was found to contain tubercle bacilli; 40 were old worn out cows.

The total weight condemned during the year was 26 tons 19 cwt of meat; 14 tons 10 cwt of fish; and 1 ton 10 cwt of fruit and vegetables. It should be pointed out that the latter figures do not include unsound fruit and vegetables dealt with at the Wholesale Market, where it is made a custom of wholesale dealers to sell questionable fruit, &c., to hawkers *subject to sorting*. This custom does not appear satisfactory from any standpoint, and was reported to the Health Committee in September, 1910. It would appear that the Markets Department should provide a room where this sorting could, if necessary, be done under supervision.

During the year two Magistrates' Orders were required for the condemnation of bad meat. Two prosecutions were ordered by the Health Committee, one defendant being fined £20 including costs, and the other £7 including costs.

Dairy Inspection.—In addition to examining the udders of the milking cows in the city cowsheds, the Veterinary Inspectors inspect the sanitary conditions of the cowsheds, dairies, and milk vessels, and take note of the cleanliness of the cows, also of the feeding and general management. In the case of poor samples of genuine milk found by chemical analysis, enquiries, sometimes of a protracted nature, are made into the principles and methods of feeding the cows, and friendly advice is given to assist the owners to improve the quality of the milk. Over 1,000 visits were made to dairy farms within the city. Five new cowsheds were built during the year, giving accommodation for 36 cows, also five new wash houses for sole use in connection with dairy work.

Tuberculosis and Milk.—During the year, 336 samples of mixed milk coming into Sheffield by rail or road conveyances were taken for bacteriological examination, 35 of which, equal to 10.4 per cent., gave a positive result, whilst 301 were negative.

In following up the 35 tuberculous samples 36 farms were visited, and the udders of 616 cows examined. At 23 of these farms 27 cows with tuberculosis udders were found. At the remaining 13 farms no cows with tuberculosis udders were found, and subsequent control samples of the mixed milk from these farms were proved negative by bacteriological examination. In most of these instances the farmers had sold cows off the farms during the period intervening between the taking of the tuberculous mixed sample and the date of the inspection.

Two notifications were received from farmers outside the city, and one cow was proved to have a tuberculous

udder. One mixed sample was found to kill the experimental animals by diplococcic infection, and, in following this up, 34 cows were examined, and one cow having a tuberculous udder was found. If we take the percentage of 29 tuberculous udders amongst the 760 country cows clinically examined, the figures work out at 3.8 per cent.

The number of cowshed premises inside the city is 228, and the number of cows housed in those premises is about 2,400. Allowing each cow to be in a city cowshed eight months, it follows that about 1,200 fresh cows must be added to that number, making 3,600 in the city cowsheds to be examined during the year. The number of inspections of city cows made during the year was 9,573, and 22 cows having tuberculous udders were discovered—equal to a percentage on 3,600 of 0.6. These figures are interesting as shewing the percentage of cows having tuberculous udders likely to be found amongst dairy stock, should veterinary inspection of such cattle become general throughout the country, which, in any legislative measures that may be introduced for the eradication of Tuberculosis amongst cattle, would be essential for success.

Fifty-one cows definitely proved to have tuberculous udders were disposed of as follows:—5 were sold by the owners and lost sight of; and 46 were killed, the carcasses of 27 being passed as fit for human food after the diseased parts had been first removed and destroyed, and 19 totally condemned and the carcasses destroyed at the destructor or knacker's yard.

Four farmers were summoned before the Health Committee to show cause why an order should not be made (Section 135 of the Sheffield Corporation Act, 1900) requiring them not to supply any milk from their dairies for consumption within the city. In two cases orders were made but were not enforced, as the farmer either killed the tuberculous cow or supplied information as to its slaughter. In one case no order was made, as the farmer had stopped sending milk to Sheffield, whilst in the fourth case no order was made, two cows with tuberculous udders being killed, but the farmer was prosecuted for failing to notify, a fine of 20/- including costs being imposed.

DISEASES OF ANIMALS ACTS, 1894-1909.

Anthrax.—Twelve suspected outbreaks of Anthrax were reported on premises in the city. The disease was found to exist in all the cases except one. In five instances the disease was discovered in the carcasses of animals slaughtered *in extremis* by the owners and sent into slaughterhouses in the city to be dressed by butchers. Two of these came from farms in the county of Derby, two from farms in the West Riding of Yorkshire, and one from a city cowshed (butcher's premises). The other six animals affected died on premises in the city, and were notified by the owner or his veterinary adviser. Two of the animals died in the same field, but with an interval of more than two months between. All but one of the diseased animals were cattle, the other being a horse. In two cases the Health Committee ordered prosecutions, one defendant being convicted of two offences, and fined £5 and 10s. respectively, with £1 1s. costs, and the other being fined £10 inclusive.

Parasitic Mange.—Thirteen outbreaks of this disease in studs in the city were dealt with during the year. Several were notified by the inspectors of the Sheffield Society for the Prevention of Cruelty to Animals. Sixteen horses and one donkey were affected. All were isolated, medically treated, and eventually cured. Four of the cases occurred on two stable premises belonging to one firm, and required continued official inspection for periods of three months and four months respectively.

Swine Fever.—One hundred and sixteen cases of illness or death of pigs were reported during the year. In 3 cases the symptoms or post-mortem appearances were

suspicious of Swine Fever, and the cases were consequently reported to the Board of Agriculture and Fisheries in compliance with the Swine Fever Order. These cases were investigated by the Veterinary Inspectors of the Board, but none of the cases were confirmed as Swine Fever.

Foreign Dogs.—During the year 80 foreign dogs were licensed into the city. They belonged to 10 different owners, and all but 9 were dogs performing at Sheffield music halls. Twenty visits were paid to see that the Board of Agriculture's conditions were being complied with by the owners. Nine dogs, 23 wolves, and 4 jackals, were licensed by the Board of Agriculture to Messrs. Bostock's Jungle at the Alexandra Rink, Townhead Street, at various times, and repeated visits were made to inspect them.

Animal Transit.—Over five hundred and twenty visits were made to the railway stations and cattle landings for the purposes of the Animals (Transit and General) Order of 1895, the amending Order of 1904, and the Conveyance of Horses Order of 1909.

Horse Sales.—The weekly auctions of horses and the horse fairs have been regularly visited as required by the Glanders and Farcy Order of 1907.

The Report is signed by J. S. LLOYD, F.R.C.V.S., D.V.S.M. Viet., *Chief Veterinary Inspector*.

The Veterinary Profession and State Grants.

On this subject Mr. Charles Bathurst, M.P., writes to *The Times*:

"For the Government of a country, which boasts both of its wealth and of supplying the world with the best of its live stock, to make a smaller annual subsidy for the above purpose than the smallest of the German States is little short of a public scandal. Our live stock, the veterinary profession, and human health all alike suffer in consequence. A duly qualified veterinary surgeon requires as thorough and therefore as costly an education as a physician. In Great Britain there is neither inducement nor sufficient opportunity given to animal doctors to obtain it, with the result that capable and ambitious young men do not readily adopt this profession, and (except now in the Army) the latter does not enjoy the social status which is its due. Hundreds of thousands of farm animals die annually from recognisable diseases without any veterinary treatment, owing to the inaccessibility of, or lack of confidence in, the nearest veterinary practitioner; thousands of others die from diseases which cannot with certainty be diagnosed. Yew poisoning is not uncommonly given as the cause of bovine mortality after treatment of the animal for some other ailment. No disease common to farm animals and man is more deadly than anthrax; our coroners are not unfamiliar with cases of human deaths consequent upon handling stock which have been declared upon diagnosis to be otherwise diseased. Although a drastic Milk Bill based upon the Final Report of the Royal Commission on Human and Animal Tuberculosis is about to be introduced into Parliament in the coming Session, no one can say that it has yet been conclusively proved that bovine tuberculosis is identical with, or commutable into, the human disease, or variety of diseases, which pass under the same name. In the present uncertain state of knowledge a few thousand pounds spent upon continued investigation into this problem by highly qualified veterinary experts, with a view to the prevention of consumption, would be better employed than either the millions about to be expended under the National Insurance Act on its attempted cure in palatial sanatoria, or the hundreds of thousands which county ratepayers will be asked to contribute by way of compensation for cattle slaughtered as dangerous to human life because, possibly, they react to the tuber-

culin test. Owing to over-hasty legislation based on insufficient knowledge there is the possibility of a milk famine producing more infantile consumption than myriads of bovine germs.

The enormous national expenditure upon, and the continued prevalence of, swine fever are, in the light of Continental experience, directly traceable to lack of State subsidised research. Although, amid other most tiresome restrictions upon the swine industry, twenty-eight days have been fixed for several years as the period for isolation prescribed by the Board of Agriculture, its chief veterinary officer was compelled to admit while cross examining one of the witnesses before the Swine Fever Departmental Committee, that the period of latency, and therefore of communicability, of this was still unascertained, but was probably far in excess of the above period.

I hesitate to say much about foot-and-mouth disease, as the matter is at present *sub judice*; but it is, to say the least, unsatisfactory that through ignorance of the aetiology of this disease the policy of wholesale slaughter and most drastic isolation are admittedly the only possible present safeguards against a devastating epidemic which would render butchers' meat (as it has recently in Germany) the luxury of the rich.

The same may be said of the mysterious Johnie's disease (so often mistaken by veterinary surgeons for tuberculosis), the prevalent intestinal strongyle disease of sheep, and contagious abortion in cattle, all of which are causing serious loss to stockowners and creating an urgent desire for more precise scientific knowledge on the part of veterinary practitioners. —*Farm and Home*.

Mendelism.

"Know anything about Mendel's law?" he asked, coming in from the byre. "Here have I a calf just born which entirely contradicts it. Its mother is a pure red, and further back for three generations pure red; the bull is red, and his dam was red, and as far back as I can trace his ancestry, he comes off a red breed. And here comes a calf to-day pure white. What would Mendelism make of that?"

"But what is Mendel's law?" I asked.

"Well!" rubbing his head: "doesn't it say that heredity goes by certain exact laws. . . . It's supposed to help breeders. . . . I am not breeding for any special line. . . . but there's that white calf. . . . No one could have expected it."

Now, I had once made a half-hearted effort to comprehend the Mendelian principle of heredity, and was stopped short by an algebraic formula which reminded me of my school days, and the school-day habit of brain has long departed from me, but some confused memory prompted the suggestion—

"Perhaps the white colour is a recessive character from some far-back white ancestor."

"But, look here! Don't we get blue greys by crossing a white with a black? So, in that case, neither white nor black is a dominant character."

"But we're no nearer Mendel's law, and it should be easy for us, surely, to get at it somehow."

"Look up that Encyclopædia, then, while I have a turn round the sheep."

Mendelism. See *Heredity*. Pages upon pages about heredity: Weismann's theory, germ-plasm, etc. Then we come to Mendel's Law, and I patiently and expectantly read through an interminable paraphrase setting forth how this Law has made clear the dark places for the breeder, enabling him to . . . and so on. Once we thoroughly master the intricacies of this law, we shall be "in a position to remake continually any good potato." . . . By the time I got to the law itself, it was growing dusk, and how rapidly it darkens in December, however close one presses to the window!

"Got it read up?" "he asked a little later at tea.
"No-o!" I said weakly; "it grew dusk. After the children have gone to bed, perhaps. You read it yourself, and explain it to me."

"Well, I will some night. But I have a lot to do just now. New cowman. Shepherd off with bad hand. Head gets muzzy when I sit down before a warm fire at nights. There's too many things connected with farming. A man can't keep up with them all."

In a review of Professor Punnet's "little manual" on Mendelism, I learn that "every good citizen should make it his business to be as familiar with its principles as his capacity permits" (this, because of its bearing upon eugenics). "Capacity permits" sounds just a little alarming. However, I suppose I shall have to have another try, or the world will be getting out of hand with me.—*Scottish Farmer*.

Donations to R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donations to the College funds, from Messrs.

P. G. Bond, Plymouth	£1	1	0
W. S. Stevens, Woking	1	1	0
Amount previously acknowledged	3	3	0
	£5	5	0

Personal.

Huish.—On the 28th December at "Danehurst," Champion Grove, Denmark Hill, S.E., the wife of C. H. Huish, of a daughter.

ARMY VETERINARY SERVICE.

The undermentioned officers embarked in Transport "Rewa" at Southampton on Jan. 10th, for a tour of service in India:—Capts. G. T. T. Jackson and A. J. Williams.

Capt. T. A. Nicholas proceeded to Egypt on Jan. 4th for duty with the Egyptian Army.

OBITUARY.

JONATHAN VINCENT, V.S., Needham Market, Suffolk.

Mr. Vincent died on Jan. 6th, at the age of 91 years.

EXPORT OF LIVE STOCK AND VETERINARY DUTIES.

Sir,

In the report of the Departmental Committee on the British Export Trade in Live Stock (appointed by Lord Carrington, March, 1910), there are some points of interest to veterinary surgeons.

From the description of the character and extent of the trade it is evident that there is a great demand for the best classes of British live stock in many colonies and foreign countries, and also that large fluctuations occur in the demand.

In considering the question of the extension of this trade the Committee have made many excellent recommendations, e.g. the co-operation of various Breed Societies in advertising schemes, the distribution of translations of the Board of Agriculture handbook on British breeds of live stock in foreign countries. Also the keeping of milk records in England and their publication abroad.

Section V. on p. 14 of the report is, however, of the most interest to the veterinary practitioner. It is proposed to extend the trade by establishing a Government Testing Station to which, at the expense of the vendor, animals to be exported must be sent for five weeks for examination and to undergo the tuberculin test. This regulation, of course, only applies to cattle, and it is supposed that the official test will give the foreign buyer confidence in his bargains.

The cost of the test is estimated at about £5 or £6 per head, to which must be added the railway charges, in some cases amounting to another £3 or £4 for each animal. If an animal reacts the owner would have to pay the fare back to his farm, and the tubercular bull would be sold to a British farmer at a low price.

Some years ago, when staying with a veterinary surgeon, qualified 25 years ago, I assisted him to test a number of pedigree bulls for export to Argentina. The agent of the South American buyer inspected the animals and then sent his own temperature charts to be filled in, and insisted on the use of tuberculin obtained from the Pasteur Institute. The veterinary surgeon was well paid by the buyer of the animals, and these tests were a source of annual income to him. The bulls were again tested on arrival, but there was but little chance of infection *en route*.

Against this pars. 72 and 73 (p. 33 of report) look well.

"72. The criticisms which were made as regards the veterinary profession are partly due to circumstances which have been unavoidable. The tuberculin test is of comparatively recent introduction, and it was not known when a large number of the veterinary surgeons who are now in practice underwent their technical training. The institutions which grant diplomas are now well equipped, and the Royal Veterinary College, for instance, receives a considerable grant of public money, which has, moreover, been recently increased. In this connection the Committee is of opinion that the attention of the various educational bodies concerned should be drawn to the commercial importance of the tuberculin test, and to the desirability of providing careful practical instruction in its application."

"73. The standardisation and State control of tuberculin have already been considered by the Royal Commission on Tuberculosis which recommended that funds shall be placed at the disposal of the Board of Agriculture and Fisheries for the preparation of the commercial article, and that it should be supplied gratuitously to stockowners."

Probably both the expert veterinary witnesses, Messrs. Villar and Manuel qualified before the introduction of this test. Yet the comparatively new Schmidt's treatment of milk fever will be familiar to both of them, and it is reasonable to suppose that other members of the profession have also kept in touch with new methods. Of what use is a veterinary surgeon's education if it does not enable him him to adapt himself to so simple a test as that under consideration. Note also that the Royal Commission on Tuberculosis advised the free distribution of the reagent "Tuberculin" to stockowners at the expense of the State.

A perusal of the instructions issued with the tuberculin supplied by the Royal Veterinary College will show that the test is not impossible for a practitioner to work in between his rounds, and also the sale books of that Institution would, I think, show that it is very widely used by veterinary surgeons.

The added note by Mr. Middleton of the Board of Agriculture and Fisheries is a curious feature of the report. He is not a veterinary surgeon, yet he writes strongly in favour of the proposed Government station, and amongst other arguments in support of his case the facts that

"By means of a vaccine prepared by the Chief Veterinary Officer to the Board of Agriculture and Fisheries, it is now possible to protect cattle from attacks of the very fatal disease known as redwater."

And also that

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Would it be generally admitted that these two facts are well enough established to be used as arguments by a layman?

Apologising for the length of this letter.—I remain, yours, etc., GEO. L. Y. INGRAM.

P.S.—Report, price 5d., can be obtained from Messrs. Wyman.

(Owing to pressure on space the foregoing has been held over.)

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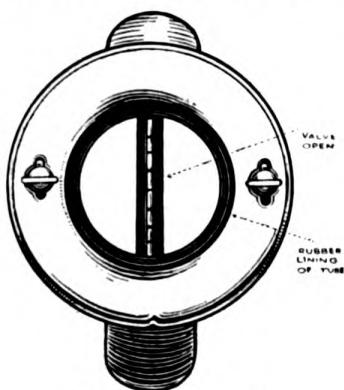
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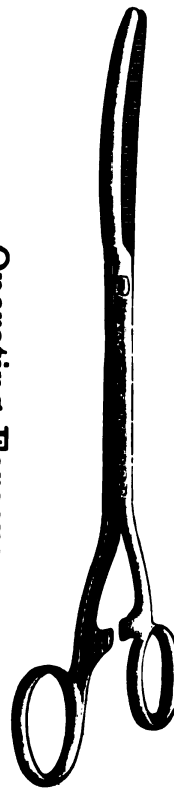


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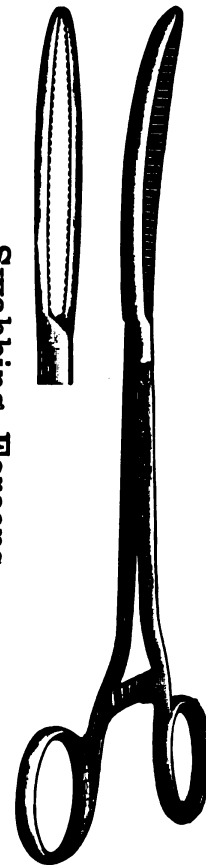


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JANUARY 20, 1912.

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Royal Counties V.M.A.

THE Annual Meeting will be held at the Gt. Western Hotel, Reading, on Friday, Feb. 2nd, the chair to be taken by the president, Stewart Stockman, Esq., at 2-15. Agenda. Routine business: Subscription to V.B. Fund: Specimens and cases of interest: Address by the President. Dinner at 4-30 prompt. Tickets 5/-, exclusive of wine. Gentlemen intending to be present will please intimate not later than Tuesday, the 30th inst. G. P. MALE, Hon. Sec.

Lancashire V.M.A.

THE Annual Dinner will take place at the Grand Hotel, Aytoun Street, Manchester, on Friday, Feb. 16th, at 6 p.m. G. H. LOCKE, Hon. Sec.

West of Scotland V.M.A.

THE Annual Meeting will be held within the Religious Institution Rooms, Buchanan St., Glasgow, at 3-30, on Wednesday, the 24th January, when Mr. Hugh Begg will open a discussion on "Lameness in Cows." ROBERT MITCHELL, Hon. Sec.

Yorkshire V.M.S.

THE Annual Meeting and dinner will be held at the Hotel Metropole, Leeds, on Friday, January 26th. The President, A. McCarmick, Esq., Leeds, in the chair. Business: Routine: Forthcoming Election of Council, R.C.V.S.: Scheme for affiliation with the National Veterinary Society: Presidential address. Meeting at 4 p.m. Dinner at 6 p.m. J. CLARKSON, Hon. Sec.

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M.R.C.V.S. (1910) desires position as assistant or manager of branch practice. Experienced in city and country practice; excellent references. Address, 3013 V.R., 20 Fulham Road, London, S.W.

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Qualified Assistant

WANTED, well up in canine work, West-end, London. Smart and gentlemanly. State full particulars and salary required. Preference given to possible successor with capital. Address, 3015 V.R., 20 Fulham Road, London, S.W.

As Assistant

M.R.C.V.S., qualified July 1911, requires assistantship. Served pupilage and has done locums in busy mixed practices. Castrate standing. Age 26½, height 5ft. 8in. References. Address, 3016 V.R., 20 Fulham Road, London, S.W.

Assistant Wanted

FOR extensive mixed practice. State age, height, weight, and give references. Address, 3017 V.R., 20 Fulham Road, London, S.W.

As Assistant

CLASS D student (25) desires a post as assistant in a busy country practice, until May. Has had previous experience. Excellent references. "J." Lamphey, S. Wales.

As Assistant

CLASS D student, rejected at Christmas examination, requires temporary assistantcy, town or country, until May. Board, etc., and small salary. E. W. Little, 33 Upper Baggot Street, Dublin.

As Assistant or Locum

CLASS D student (son of V.S.) seeks employment in busy country practice for any period up to May. Seen plenty of practice; testimonials. Ride, cycle, and drive horse or car. "H.K." Royal Veterinary College, Camden Town, N.W.

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M.R.C.V.S., aged 25, requires post as assistant or partner, preferably in a good hunting practice: ride, drive and cycle. Address, 2014 V.R., 20 Fulham Road, London, S.W.

As Assistant or Locum

RECENTLY qualified veterinary surgeon, post graduate, requires situation as assistant or locum, in town or canine practice. Ride, drive or cycle. Address, 2015 V.R., 20 Fulham Road, London, S.W.

As Assistant

RECENTLY qualified man requires post as assistant in good town or country practice: good references. Address, E. J. Lainé, Bourgs, St. Andrews, Guernsey.

As Assistant

M.R.C.V.S. desires situation. Excellent references: experience in town and country practice. Address, 2016 V.R., 20 Fulham Road, London, S.W.

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The number of places for these Courses is limited and early application must therefore be made to prevent disappointment. The next Course will begin on Monday, October 7th, and terminate on Friday, November 29th, 1912.

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No. 1228.

JANUARY 20, 1912

VOL. XXIV.

THE COUNCIL MEETING.

Not much comment need be offered upon the Council meeting. First we touch upon its most important and also most depressing portion—the discussion of the College finances, which, indeed, might almost be left to speak for itself. Last July £1000 worth of consols were sold, and much of the proceeds went to repay a previous heavy bankers' overdraft. To-day the treasurer has but £150 left in hand, which means that very shortly the Council will be faced with the alternative of selling more consols or recommencing to overdraw. The discussion upon this position is worth careful reading.

The view of the majority of the Council is quite clear—they object to asking members for donations on principle, as "making the willing horse pay," and therefore they will not issue an appeal to the profession. At the same time they evidently do not feel justified in declining donations offered unasked, for the few sent this quarter have been accepted with thanks, as before.

The moral to be drawn is—let those who are willing to stay the College a little on its course towards bankruptcy continue to send their cheques.

Little else in the report calls for notice. The Parliamentary Committee reported upon a great deal of work, most of which is already known; and we have the satisfactory assurance that the Council's opinion will receive full consideration from the Home Office in connection with the projected drawing up of regulations for the inspection of animals under the Coal Mines Act. A single omission has caused the long list of alterations in the examination bye-laws, of which notice had already been given, to be suspended for another three months. Their text is published, and there is ample time to discuss them before April.

Two little items illustrate the growing recognition of the profession overseas, viz., the receipt by the Council of an Ordinance for the Registration of Veterinary Surgeons for the Island of St. Vincent, and an Act to regulate the practice of veterinary surgery in Western Australia. Both documents are now in the College archives, and members contemplating emigration to either of these places may thus gain direct information regarding the conditions of veterinary practice there.

Lastly, this year, as was first made possible by the Supplementary Charter of 1876, the annual general meeting is to be held in Dublin. This is a well-merited compliment to the President, and there are other reasons to commend the step. It will give our Irish colleagues a chance of showing their individual interest in the affairs of the Body Cor-

porate, and we should not be surprised to see them do so in better numbers than is the wont of those practising in or near London. The attendances at the London meetings are a disgrace to the profession; that at Dublin may be very different.

THE KIRK APPEAL CASE.

The Kirk appeal case is over; and three judges have unanimously decided that veterinary surgeons who wish to use the College crest must pay for doing so. This decision was foreshadowed by the expert advice given to the R.C.V.S. some time ago. The commendability or otherwise of using the College crest is largely a matter of opinion; our own is that the practice might advantageously be dropped. Very few members are likely to think the crest worth the annual payment of a guinea; and the local authorities will probably gain very little from the L.C.C.'s successful appeal. The veterinary profession, we think, has lost still less by the result. But we should be glad to see further support given to the fund for the defence. Mr. Kirk has done a service to the profession, and has to bear the costs of his unsuccessful fight. When so many of our members have hitherto used the crest, the man who has indirectly aided all should not be allowed to lose by it.

PARALYSIS OF THE SOFT PALATE IN THE DOG.

Hebrant and Antoine record the case of a three-year-old draught dog, which was brought to them for observation soon after being purchased. The animal was well built, and strong enough to draw a very considerable load; but was quite useless for draught purposes, on account of "roaring." As soon as he made an effort just sufficient to very slightly accelerate the respirations, he commenced to roar very intensely, which prevented all further effort, and rendered him useless for work.

When the dog was examined at rest nothing abnormal could be discovered. The respirations were calm and deep, and no sound of roaring could be heard. No abnormal conformation of either the nostrils or the pharyngeal region was visible.

In movement, however, the animal only travelled a few yards before commencing to roar. By careful observation, it was found that the roaring noise was only audible when he respired through the mouth. As soon as the mouth was closed and the dog respired by the nasal cavities, all roaring ceased; and he could travel some time without a renewal of it—until, in fact, the respirations became accelerated and he was obliged to open the mouth to admit air.

A minute examination of the interior of the back of the mouth and the pharynx was then made. No inflammatory lesion was discovered; but the attention was immediately arrested by the flaccidity and exaggerated length of the soft palate, which covered a portion of the glottis. It could easily be displaced from that position, being so inert as to offer no resistance.

The diagnosis, therefore, was one of paralysis of the levator muscles of the soft palate. So long as the dog respired by the nasal passages, the respiration was effected without abnormal sound, no obstacle existing to the passage of air. But as soon as the animal had exerted himself sufficiently to require buccal respiration, then the column of air, in inspiration and expiration alike, struck the inertly floating soft palate and thus caused the sound of roaring.

The cause of the condition could not be discovered. Revulsive treatment was applied to the throat, and nervous stimulants given internally, but all treatment failed completely. Nothing could be done, therefore, but advise the client to get rid of the animal as useless for work.—(*Annales de Méd. Vét.*)

THE STRUCTURE AND STAINING OF TUBERCLE BACILLI.

Julius Schmiedhoffer says (*Allatorrosi Lapok*) that the acid-fast character of the tubercle bacillus is due to the molecular structure of the bacillus, and not, as has been supposed, to a special envelope of fat or nuclein. Even when treated with alcohol, ether, xylol, chloroform, benzine, acetone, carbon sulphide, or liquor potassæ, tubercle bacilli appear acid-fast.

The author's researches indicate that the tubercle bacillus does not belong to the bacteria which multiply by spore formation. The bodies which some authors have regarded as spores are really aggregations of chromatin, which become visible through the degeneration of the envelope. They play no part in the reproduction of the bacillus; present none of the characters of an independently developing body, and perish with the bacillus, or at an earlier period. They never appear independently, either in pus or cultures.

The author has also undertaken investigations to compare the value of the older and newer methods of staining tubercle bacilli, and finds that the Ziehl-Neelsen procedure still cannot be replaced for the quick demonstration of the bacilli in either discharges or cultures. It is decidedly the simplest method, and renders especially good service in cases in which the discharge contains many other species of bacteria; but it is not at all adapted to structural investigations. For the latter purpose a modification of Gram's method is most applicable, the modification being that the decolourisation is carried out, not with alcohol, but with either acetone or a mixture of equal parts of acetone and alcohol.—(*Berl. Tier. Woch.*)

W. R. C.

Royal College of Veterinary Surgeons.

A quarterly meeting of the Council was held at the College, 10, Red Lion Square, London, W.C., on Friday afternoon, 12th January, 1912, Professor A. E. Mettam, the President, occupying the chair. The following members of Council were present: Col. Sir Francis Duck, K.C.B., Major-General Thomson, C.B., Profs. Bradley, Dewar, McCall, Sir John M'Fadyean, and Shave, Messrs. Abson, Banham, Barrett, Carter, Garnett, Hobday, Lawson, Lloyd, McL. McCall, Mulvey, Roberts, Shipley, Slocock, Stockman, Sumner, Trigger, and Wharam; Mr. G. Thatcher, (solicitor), and Mr. F. Bullock (secretary).

The PRESIDENT: Gentlemen, may I first offer you from the Chair hearty greetings for the New Year, and hope that the coming year will prove one of success to the College, and that the end of the year may see the College in a better and more flourishing condition than we know it is in at the present time. I have great pleasure, gentlemen, in wishing you the compliments of the season.

Mr. MULVEY: The same to you, sir. (Cheers.)

MINUTES.

On the motion of Prof. Dewar, seconded by Mr. Abson, the minutes of the last meeting were taken as read and confirmed.

APOLOGIES FOR ABSENCE.

The SECRETARY announced that apologies for inability to attend the meeting had been received from Mr. Dunstan, who had met with an accident, Mr. McKinna, Mr. Mason, and Mr. Rutherford.

The SECRETARY read the obituary list.

ADMISSIONS TO MEMBERSHIP.

The SECRETARY read the following list of members who had been admitted since the previous quarterly meeting of Council:

Dublin College.—Messrs. R. P. Byrne, R. Devereux, J. T. Evans, V. Fox, J. J. G. Keppel, R. Marner, P. W. D. O'Connell, W. J. O'Donoghue, A. O'Neill, W. E. Phipps, T. L. Shea, F. J. Shearman.

Glasgow College.—Messrs. J. Gibson, J. Scott.

Edinburgh College.—Messrs. G. Currey, S. C. Currie, J. R. Greig, T. F. Sexton.

Liverpool College.—Messrs. E. L. Butters, D. R. F. Hoddinott, H. D. Lewis.

London College.—Messrs. F. E. Heath, C. Holland, E. J. Lainé, C. W. Perrin, S. Smith, H. Stephenson, B. M. R. West.

CORRESPONDENCE.

The SECRETARY read the following letter from Mrs Owen Williams:—"Would you please to convey to those members of the Council who so kindly sent me the touching message of their sympathy in my deep sorrow my most heartfelt thanks."

The SECRETARY read the following letter, dated October 18th, 1911, from Mr. A. M. Trotter, Secretary of the Association of Veterinary Officers of Health:—"I was instructed at the annual meeting of the above Association to forward for the consideration of the Council of the R.C.V.S. the annexed resolution, and to express the hope that they would see their way to carry out the suggestion. I need hardly add that the importance of meat and milk hygiene warrant the adoption of the course suggested."

Resolution.—Resolved: That the members of the Association of Veterinary Officers of Health beg the

Council of the Royal College of Veterinary Surgeons and the Governing Bodies of the various Veterinary Colleges to consider the advisability of treating those branches of the profession relating to public health—meat and milk hygiene—as a special subject."

The PRESIDENT: Accompanying the communication that Mr. Bullock has read is a printed circular, which I presume the majority of the members of the Council, if not all, have already seen. It practically is an extended account of the transactions occurring at this meeting of the Association of Veterinary Officers of Health. Will the Council be pleased to say what is to be done with this communication from Mr. Trotter. Will you refer it to some Committee for consideration and report?

Mr. LLOYD: I propose that the letter be referred to the Examination Committee for consideration and report. That is the Committee which deals with the examination of the students.

Prof. McCALL: I beg to second that.

Mr. STOCKMAN: As an amendment, I would like to propose that we ask for some indication from the Association on what lines they propose action should be taken. I have read the statement, and I think I am quite prepared to agree with some parts of it, but I understand that we have already provided teaching in these subjects. Therefore if they could indicate from their special knowledge what they think the curriculum is deficient in, it might be of some help.

Prof. McCALL: Could not the Committee make that enquiry direct?

The PRESIDENT: I scarcely took what Mr. Stockman said as being an amendment to Mr. Lloyd's motion.

Mr. STOCKMAN: Yes, I meant it as an amendment.

The PRESIDENT: I think what you said is no amendment unless you move it in specific words. The motion is that it should be referred to the Examination Committee. Would not that meet what you require?

Mr. STOCKMAN: Yes, there is no harm in doing that. The Examination Committee can report. I suppose the Examination Committee can communicate with the Association.

The PRESIDENT: Yes. It is proposed and seconded that the letter be referred to the Examination Committee for further enquiry and report.

The resolution was unanimously adopted.

PRESENTATIONS TO THE LIBRARY.

The SECRETARY announced that the following presentations had been made to the Library since the last meeting of Council: By Major F. S. H. Baldrey, F.R.C.V.S.: "Sensitised Vaccine in Haemorrhagic Septicæmia"; "A Cultured Method of Hyper-Immunising Animals for the Production of Anti-Rinderpest Serum"; "The Evolution of *Trypanosoma Evansi* through the Fly: *Tabanus* and *Stomoxys*"; "An Undescribed Organism—Pathogenic to Laboratory Animals, Cattle, and Sheep; and Simulating Blackquarter in its Pathogenicity." Annual Report of the Bengal Veterinary College and of the Civil Veterinary Department, Bengal, 1910-11; Report on the 9th International Veterinary Congress at the Hague, 1909, per Mr. G. A. Banham, F.R.C.V.S.; Report on Higher Education in the State of New York for 1910; Catalogue of Exhibits in the British Section of the International Shooting and Field Sports Exhibition, Vienna, 1910; *The Rhodesian Agricultural Journal*, October, 1911; *Revue de Pathologie Comparée*, October and November, 1911; Bulletin of the Sleeping Sickness Bureau, November and December; Bulletin of the Yellow Fever Bureau, October, November, and December, 1911; *The Journal of the Board of Agriculture*, October, November, and December, 1911; Leaflets of the Board of Agriculture and Fisheries; *The Journal of Tropical Veterinary Science*, Vol. VI, No. 4; *The Journal of Comparative Pathology and Therapeutics*, December, 1911; *The Journal of*

Meat and Milk Hygiene, October, November, and December, 1911; *The Veterinary Journal*, *The Veterinary News*, and *The Veterinary Record* for the quarter; *La Tuberculose*, August and September, 1911.

On the motion of Mr. Carter, seconded by Dr. Bradley, a hearty vote of thanks was accorded to the respective donors.

FINANCE COMMITTEE.

Mr. ABSON read the following report of a meeting of the Finance Committee held on Friday, January 12th, 1912:

Chairman. In the absence of the Chairman, it was resolved that the President be appointed to the Chair.

Minutes.—The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed.

Donations. The Secretary reported the receipts of donations from members for the year 1912, amounting to the sum of £5 5s. It was resolved that the donations be accepted with thanks.

Financial Statement. The Treasurer submitted his financial statement for the quarter. It was resolved that the financial statement be approved, and that the Treasurer be authorised to pay the liabilities shown, together with cheques for monthly salaries, petty cash, insurance, gas and electric light, and delegate's expenses, Glasgow.

Mr. ABSON: I beg to move the reception and adoption of the report.

Mr. ROBERTS: I beg to second that.

The PRESIDENT: It is now open for discussion.

Mr. MULVEY: Gentlemen, the position of Treasurer of the Royal College of Veterinary Surgeons is a most unpleasant one to occupy in its present financial condition. You will notice from the balance sheet that, after our liabilities have been paid, we shall have a balance of £150 18s. 11d., but when we have paid certain accounts and liabilities that will be incurred before our next meeting there will be only £111 12s. in hand. In addition to that, up to the end of March there are certain other liabilities which will occur before we meet again which amount to another £147 at least, and that figure does not include any expenses that may be incurred during the following quarter of April to June. It is very difficult to meet an expenditure of £147, or probably £150 or £160 with a balance in hand of only £111 12s. You are aware that it was only in July last that we sold out £1,000 worth of Consols, which reduced our income by £23 11s. a year. If we keep on selling Consols—and I see no other way that we can adopt in order to carry on the work of the College—the income from that source will soon be done away with altogether. How is this to be met? Is it possible to reduce our expenses? (Cries of "No.") Certainly the Finance Committee have gone carefully through them with a view of reducing everything that was possible, and personally I do not see any way in which they can be made much less. I do think it ought to go out from this Council to the profession that the time has almost arrived when it will be impossible for us as a Council to undertake prosecutions on behalf of its members. We cannot work without funds, and unless funds are provided we shall have to come to a standstill in that way. I do not know what to suggest. Certainly we cannot make our expenses less. The only thing is that our income must be increased in some way or other. Whether the proposed Bill will go through or not I do not know, at all events that is in the future, and very far in the future I am afraid. I can only leave the matter in that way, sir, except that I think authority should be given to me as treasurer to sell out, if necessary, another £1,000 worth of Consols.

Mr. TRIGGER: I would like to say a word, sir, on our very deplorable state of affairs. The Finance Committee

have threshed out the question of the expenses time after time. This morning he went through them carefully once again, and I am perfectly satisfied that they have been cut down to a point at which they cannot be cut down any further, unless we have honorary examiners in the same way that we have honorary Councilmen, but of course that is a thing you cannot expect. I would only venture to suggest to Mr. Mulvey that, rather than selling Consols at the present time, we had better wait for three months in order that we may see how we stand with our Bill. I do not think he will have to overdraw very much at the bank, and if we can go on till April I think we shall be able to get through with an overdraft of £50 or £60. I think we might wait till the April Council meeting before giving authority for the sale of another £1,000 worth of Consols, because in that way we shall get interest on the Consols for three months.

Mr. CARTER: Could not we make a general appeal to the profession again as we did last year? I think that would probably get us over the difficulty for the time being. There are many members who said that if this was levied voluntarily they would subscribe, and I think if our present position was mentioned in the papers probably we might be able to get some assistance in that way.

Mr. TRIGGER: We do not want to go to any expense in getting it.

Prof. DEWAR: I think my friend, Mr. Carter, is a little mistaken in his remarks he has made with regard to an appeal being made to the profession. I proposed that an appeal should be made to the profession, but the Council decided it should not be made. I do think the Council are hardly doing its duty. We cannot go on in this way for very long. Mr. Mulvey has told us that there is no guarantee that the Bill will be passed in the next session of Parliament; he did not use those words perhaps, but that is what I inferred from what he said. I do not know anything with regard to that, but I do think that we are hardly doing our duty unless we set the profession an example and appeal to the profession for assistance. We are going on diminishing our resources, and as my friend Mr. Rutherford said in his report to the Secretary about the meeting in Edinburgh, no company or business firm can go on in that way for any time; it would soon be a case of liquidation. It does look to me a little invidious if we appeal to the profession to subscribe and do not subscribe ourselves. I think we Members of the Council might subscribe something—it need not be a big sum—to show the profession that we are in earnest about it, and if that is done I have not the least doubt we should get assistance. If Mr. Carter will second that I will move that that be done. I do not wish to mention any sum. I think the sum that we could give personally would be a sum well within the means of every member here, but at the same time I think it is only right that we should do it seeing the way that the capital of the College is dwindling.

Sir John M'FADYEAN: I think we all appreciate to the full the gravity of the financial position disclosed by the Financial Statement, reinforced by the remarks that have fallen from the Treasurer. The gravity of the position would be serious enough even if we had reason to think it was only temporary, but I think we should be deluding ourselves and deluding the profession if we gave it out that this is a mere transient financial inconvenience. One knows that there is a large body of expenditure to which this Council stands permanently committed, namely, the safeguarding of our own interests, and the interests of the public in connection with the Veterinary Surgeons Act; and I ought perhaps to have mentioned as entitled to the first place our duties to the public in connection with veterinary education and the conduct of the examinations. The falling off in the income has been mainly due to the

diminished number of aspiring entrants to the profession, and I for one am unable to see the least ground for supposing that we shall ever go back to the times of, say, 10 or 20 years ago (hear, hear). I think when one realises these facts one sees that little is to be expected from an appeal to the profession. Are we to suppose that the business of the Council is only to be made possible in the future by voluntary subscriptions received from men here and there? I think not, and I know not what ground Prof. Dewar has for supposing that an appeal to the profession would bring in a very considerable sum of money over a period of years. The appeal that has already been made was not very encouraging in that respect. But I maintain that it is really an inequitable means of raising the sum of money necessary to make our income and expenditure balance. I wonder if Prof. Dewar will assent to the statement that probably every member of the profession could afford to pay the sum of £1 annually to enable us to discharge our duties to the profession and to the public. This is what we know the majority of us think, and that is the principle that is embodied in the Bill that we have already laid before Parliament. It is possible that that Bill will not go through during the ensuing session, but I do not see any occasion to despair that it will go through eventually, and at no very distant date. But at any rate I maintain that is the proper solution, and indeed the only solution of our financial difficulties. (Hear, hear). As bearing upon the question of making an appeal to the profession, I should like to point out that the present moment is highly inopportune. The profession is really already saddled with a very great financial responsibility. I suppose everybody sitting here knows what is the responsibility to which I refer; it is that connected with the holding of the International Veterinary Congress in London in the year 1914. Those who have taken upon themselves the responsibility of organising that Congress are now making an appeal to the profession to raise within the next two years a sum of £3,000, and I do not suppose anything less will suffice. In these circumstances, does it appear to anybody to be advisable to make a second appeal to the profession? The result probably would be that both of them would be entirely inadequate, and those are the facts which I think ought to go out from this Council to the profession.

Mr. CARTER: With all due respects to Sir John's remarks, I certainly think that the profession comes first—our own profession in this country. I think we ought first to look to our own home.

Mr. BARRETT: If I may I should like to make one or two observations upon this point. I should like to say at once that I sympathise entirely with the remarks that have fallen from Mr. Mulvey, that his position to-day is not a sinecure, in view of the unfortunate financial position in which we find ourselves. On the other hand, I am rather inclined to agree with the observations which fell from Prof. Dewar, and which were seconded by Mr. Carter, that perhaps the time has come when we might appeal to the profession for some temporary assistance in view of the difficulties in which we find ourselves. It seems to me that the Balance Sheet on the whole is not quite clear, nor were the remarks of Mr. Mulvey quite clear either, because from the observations which he made it might appear to the profession that during the past year or eighteen months we have had a deficit of at least £1,000, because he referred to the fact that £1,000 worth of Consols were sold some months ago, and we would have to sell some more if we were to meet our liabilities. I take it that is not quite the position of the matter. I understood from our President this morning that during the past two years or so we had lost, about £700 that is to say we were conducting the business of this College at an annual loss of about £350. Certain observations which were made at this Council last year came before the profession, by means of which the profession

were informed that we were losing money in carrying on the work of the College, and there were several members of the profession who came forward and sent their cheques in order to meet the deficit which had then been occasioned. I do not think that is hard upon them. I do not think it is derogatory at all to us that, as a Council, we should ask the members of the profession who are rich and who are willing to pay a guinea or two to carry on the work of the College that they should again come forward and help us as they did last year. I do not know exactly what was the sum subscribed last year, but I think it was roughly about £100. That was one third of the loss which we sustained during the year. I want to say one other thing, if I may, in regard to this matter, and I want to be very careful how I say it, because the opinions which I held two years ago have not in any sense altered. Sir John McFadyean said, was there any member of the profession who was not able to pay £1 a year? My honest conviction is that there are a good many members of the profession who cannot afford £1 a year; and there is no getting away from the fact that there is still some opposition in the profession to the measure which we desire to pass through the House of Commons; and there is no getting away from the fact that that opposition will be almost entirely allayed if two or three gentlemen who are sitting round this corner would be content with an annual subscription, say, of half-a-guinea a year rather than a guinea. Half-a-guinea a year would yield to the College roughly £1,500 a year. That will give us ample funds and to spare, and I cannot help thinking that wiser counsels even now should prevail in regard to this matter. The House of Commons next Session will be deeply engaged.

Mr. TRIGGER: I rise to a point of order. I think when Mr. Barrett was elected President he gave us to understand that he would give his whole-hearted support to the Bill as it then stood. He is now crying down.

Mr. BARRETT: Mr. Trigger does not appreciate the point.

Mr. TRIGGER: Oh yes, I do.

Mr. BARRETT: I gave the profession, whilst I occupied the chair, my most whole-hearted support everyone will admit that and I am going to give the profession my support now, but surely a member is not thereby precluded from saying in this room at this meeting, which is a meeting amongst ourselves—

Mr. TRIGGER: I beg your pardon; it is public to the profession. With great respect it is not a meeting amongst ourselves. What we say here goes to the profession.

Sir JOHN McFADYEAN: I should raise another point of order, and that is whether it is really in order in connection with the consideration of the Financial statement to suggest amendments of the Bill. I think we might, if that is open to discussion now, have a prolonged one, but I do suggest to you, sir, that it is out of order.

The PRESIDENT: It was going through my mind that Mr. Barrett is getting perilously near discussing the Bill, and I was wondering in my own mind whether he was not trespassing too far on that point. But still I could not say where the line was to be drawn between the discussion as to this appeal that has been proposed by Prof. Dewar and Mr. Carter. I thought that the argument he was using was an argument in favour of the appeal.

Mr. STOCKMAN: There is another point of order, sir. Is it a year since we fully discussed the question of whether half-a-guinea or a guinea should be the amount inserted in this Bill?

Mr. SUMNER: I think this is out of order, sir.

Mr. ABSON: The question of the annual fee as proposed in the Bill was thoroughly discussed, and has

been over and over again. The question as to whether it should be 10/6 or one guinea was brought forward: we discussed it *pro* and *con*, and it was practically unanimously settled that it should be one guinea. I think there were only about three dissentients. The election was fought upon it. It is raising a question again for discussion that is dead.

Mr. BARRETT: Whatever your ruling may be, sir, I should bow to it, but I submit with respect to you and to the meeting that I was not discussing any proposed amendments of the Bill at all. I was merely answering the point which was quite rightly raised by Sir John McFadyean. No one would be more sorry than I to give expression to any language which would in the least irritate the members who are sitting round this table. That is not my intention at all.

Mr. ABSON: It is a question as to whether it will jeopardise the Bill.

Mr. BARRETT: How can a discussion round this table in a friendly way jeopardise the Bill, especially if the object of that discussion is to induce peace?

Mr. ABSON: May we have a ruling on the point?

The PRESIDENT: It is more than twelve months ago since it was discussed.

Sir JOHN McFADYEAN: That is not the point, sir.

The PRESIDENT: That was the point Mr. Stockman raised as regards the question of how long ago it was discussed.

Sir JOHN McFADYEAN: I want a ruling on the point whether it is open to a member of this Council in discussing the balance sheet put before the meeting to suggest that the Council should go back upon its practically unanimous decision that the Bill should stand as it is?

Mr. BARRETT: I never suggested that at all.

The PRESIDENT: The question of the Bill does not arise at all on this report.

Mr. BARRETT: I have not ever suggested that this Council should go back upon its decision with regard to the Bill.

The PRESIDENT: You must drop the question of the Bill.

Mr. BARRETT: I have not dealt with the Bill at all, if I may say so with the utmost respect. Sir John raised the question quite rightly that there was not a member of the profession who could not afford to pay £1 annually, and I threw out the suggestion, in answer to that remark,—Is it desirable to stick to the £1 annually? Would not it be more diplomatic, wiser—would not it be more likely to ensure success—(interuption)—I trust you will allow me to complete what I have to say; you do not know what I was going to say. If you desire to prevent one from expressing one's honest conviction I will sit down.

Mr. TRIGGER: That is my point of order.

Mr. BARRETT: The President has not upheld you.

The PRESIDENT: Yes, I say you cannot discuss the question of the Bill, and what we have already decided with regard to it; you cannot go back upon that.

Mr. BARRETT: With the greatest respect I am not discussing the question of the Bill at all.

The PRESIDENT: With the greatest respect you are discussing the question as to whether it should be a guinea or half-a-guinea, and I maintain that that is a question dealing with the Bill.

Mr. BARRETT: I bow to your ruling, of course, sir; I am not going to raise any question of that sort to-day, and if you say I must not go on I will desist. But I want to say this, that I quite concur in the remarks which have fallen from Mr. Carter, that if this profession is capable amongst its members of finding £3000 for the International Congress then it ought to be the more able and the more willing to provide £350 for the work of this College. It is idle to pretend that it is derogatory to appeal to the profession, or that it would be

contrary to our dignity to let the profession know by circular or by some powerful means that the sum of £350 will pay for the deficit which has been occasioned during the past year. I will say no more than that. I shall support Prof. Dewar in his motion if he persists in it, and I think it might very wisely be adopted by this Council.

The PRESIDENT: It has been proposed and seconded that an appeal be made to the profession for subscriptions.

Prof. DEWAR: That is not all the resolution—and that the members of the Council agree to give a certain sum as an example.

The PRESIDENT: We are members of the profession, are we not?

Prof. DEWAR: You disagree, of course.

The PRESIDENT: Give me exactly the terms of your proposition.

Prof. DEWAR: I will write it down.

Mr. GARNETT: While Prof. Dewar is committing his motion to writing, I hope I may be allowed to say a few words on this question, because it is not the first time it has been raised before the Council. It is one of those red herrings that has been drawn before the profession for years, and you see the result. The willing horse will pay, and go on paying, to the great satisfaction of a lot of the members of the profession. Now that is not equitable. (Hear, hear.) It is a position that this Council has never taken up. They think that if the profession is to benefit by the proceedings of this Council that the benefits to the profession should be contributed by the body corporate, both in the Council and outside the Council—by every individual member of the veterinary profession. That is the stand that this Council, as far as my experience goes, has always taken up, and I think it would be a great pity to issue an appeal to the profession simply to mulct those enthusiastic members who are willing to support the profession, for the benefit of those who will not put their hands in their pockets, not only to help the body corporate but to help themselves.

Mr. ABSON: And many of whom are very well off, too.

Mr. GARNETT: Yes.

The PRESIDENT: Will you now read your motion, Prof. Dewar?

Prof. DEWAR: In proposing this motion, I would like to say that it is surely a strange thing for a Council such as this to have such an aversion to accepting money which will be given practically voluntarily by the profession, and that nevertheless we should have the power to compel members who are not able to pay to the funds of the College.

Mr. GARNETT: No one suggests that.

Prof. DEWAR: You are all suggesting it.

The PRESIDENT: Prof. Dewar is simply speaking for himself.

Mr. GARNETT: That is contrary to all that is in the Bill.

Prof. DEWAR: I move: "That the members of Council agree to give each a certain sum as a subscription to the funds of the College as an example to the profession, and that a general appeal for subscriptions be made to the whole of the members."

Mr. CARTER: I second that.

Mr. TRIGGER: I want to know before that is put to the meeting what is the sum suggested.

Prof. DEWAR: "A certain sum."

Sir JOHN M'FADYEN: I suggest that the prefix "un" should be inserted before "certain." (Laughter.)

Mr. TRIGGER: I want to know what sum Prof. Dewar suggests.

Prof. DEWAR: It is for the Council to suggest it. What do you suggest?

The PRESIDENT: I can only take the resolution as it is given to me, the other question can be settled afterwards.

The resolution was then put and lost, only the mover and seconder, Prof. Dewar and Mr. Carter, voting in its favour.

Mr. BARRETT: Shall I be in order if I move another amendment now?

The PRESIDENT: No. It has been voted upon, and no amendment can be moved to a resolution that has been already voted upon.

Mr. BARRETT: But I can move an amendment upon the original resolution?

The PRESIDENT: Yes, but not an amendment upon a thing that is already "squelched."

Mr. BARRETT: I beg to move "That an appeal be issued to the profession for funds, and that the Council be asked to head the list by offering subscriptions to it."

The PRESIDENT: I rule that that is covered already by the resolution that has been put.

Mr. ABSON: I should like to press for the names of the ayes and the noes to the resolution.

The PRESIDENT: Two voted for it, and the rest against.

The resolution for the reception and adoption of the report of the Finance Committee was then put and carried.

Mr. CARTER: Do I understand that this matter drops to the ground—that there is no appeal to be made to the profession?

The PRESIDENT: Precisely; that is the finding of the Council.

Major-Genl. THOMSON: May I say a word?

The PRESIDENT: The report of the Finance Committee is already passed.

Major-Genl. THOMSON: I was going to speak before it was actually passed. I was not aware that it had been received and adopted.

The PRESIDENT: Yes, it has been received and adopted.

REGISTRATION COMMITTEE.

The SECRETARY read the report of a meeting of the Registration Committee held on Thursday, January 11th, 1912, which stated that a letter (January 9th, 1912) was received from the London Master Carmen and Cartage Contractors' Association asking the assistance of the Council in dealing with cases of injustice arising through conflicting evidence of veterinary surgeons in prosecutions for alleged cruelty to horses, and it was resolved that the Secretary be instructed to reply, stating that while the Committee are to a considerable extent in sympathy with the views expressed, they regret they are not in a position to take any action in the matter, but that if the Association could supply details of any particular case in which injustice appeared to have been done, the Council would take such action as was legally possible to them.

In reply to another letter from a practitioner, the Solicitor was instructed to prosecute an advertiser if suitable evidence could be obtained.

The Committee proceeded to deal with 14 cases, in one of which a member appeared to answer a charge of advertising by means of a circular and a notice in *The Forthound*. Letters of explanations were read, and the Committee resolved: (a) that this Committee expresses its feeling of regret that circulars bearing Mr. Garside's name were issued; (b) that Mr. Garside's statement that they were published without his knowledge be accepted, his letter being accepted as an undertaking that the offence will not be repeated.

In another case it was resolved that a member be called upon to appear at the next meeting to show cause why his name should not be removed from the Register. The Solicitor reported prosecution and conviction

in the case of G. C. Hill, the defendant being fined with costs.

The Solicitor and Secretary were instructed as to the course of action to be taken in the remaining cases.

Restorations.—An application was received for the restoration of the name of Mr. G. H. Golding to the Register, the name having been removed under Section 5, Sub-section (4) of the Veterinary Surgeons Act, and it was resolved that the name of Mr. G. H. Golding be restored to the Register of Veterinary Surgeons.

On the motion of Major General Thomson, seconded by Mr. Roberts, the report was received and adopted; and on the motion of Mr. Mulvey, seconded by Major General Thomson, authority was given for the Seal of the College to be affixed to the Orders for prosecution mentioned in the report.

EXAMINATION COMMITTEE.

The SECRETARY read the following Report of a meeting of the Examination Committee held on Thursday, 11th January 1912:

Correspondence.—(a) Letters were received from the Examiners in Surgery, Class D, in connection with the Oral Examination in Liverpool in July, 1911, which were considered satisfactory.

(b) The Secretary reported the receipt of a letter from Dr. Noel Paton stating that he could not act as Examiner in Histology and Physiology, Class B, in December, 1911, but that the President had made arrangements for Prof. W. H. Thompson to act in his stead.

Reports on December Examinations.—The Reports of the Delegates, Chairmen of the Board of Examiners, and the Local Secretaries were read and considered.

It was resolved that the Secretary be instructed to forward letter of thanks in cases where rooms had been lent free of charge, and also where animals had been lent to the College for the purpose of Examinations.

Educational Certificates.—Educational Certificates numbered 1193 to 1249 were submitted and approved.

Schedule II.—The revision of Schedule II was considered, and it was resolved:

(a) That a Sub-Committee consisting of Dr. Bradley, Mr. Hobday, Prof. McCall, Sir John M'Fadyean, Prof. Mettam, Mr. Mulvey, Prof. Shave, Messrs. Sumner, Villar, be appointed to consider the syllabus in the Schedule and to report to this Committee at its next meeting.

(b) That the Secretary be instructed to obtain copies of regulations of other bodies and to submit them to the first meeting of the Sub-Committee to be held at 11 a.m. on Thursday, April 11th.

Jubilee Memorial and Bursary Examination.—It was resolved that the Examination for the Jubilee Memorial and Bursary Prize be held in the last week in August or the first in September, 1912.

Walley Memorial Examination.—The report of the Examiners on the Walley Memorial Prize was considered. The report showed that the following two students were bracketed equal first:—

P. R. Viljoen, 221½ marks. J. J. Cosgrove, 221½ marks. It was resolved to recommend that the value of the Prize be divided between the two students.

On the motion of Mr. Lawson, seconded by Prof. McCall, the Report was received and adopted.

PARLIAMENTARY COMMITTEE.

Mr. GARNETT read the following Report of a meeting of the Parliamentary Committee held on December 14th, 1911:—

Coal Mines Bill.—(a) The Chairman reported that it had been found necessary hurriedly to call together a deputation to the Home Office in connection with the inspection of animals in the Coal Mines Bill. These clauses had been inserted during the passage of the Bill through Committee, and had not been brought to his

notice until the Bill was at the Report Stage. In consultation with the President a deputation had been arranged consisting of the Chairman of the Parliamentary Committee, together with Messrs. W. Hunting, W. Woods, H. Peele, G. Elphick, the Solicitor and Secretary, who attended at the Home Office on November 30th, and were received by the Chief Inspector of Mines.

The Deputation represented that the fit persons to be appointed under Section 109, Sub-section 3 of the Bill, as special inspectors for the purpose of examining into the care and treatment of horses and other animals in mines, should be properly qualified Veterinary Surgeons, as had been recommended in Section 10 of the Third Report of the Royal Commission on Mines.

The Deputation claimed further that in paragraph I of the Third Schedule of the Bill providing for the testing of horses for glanders, it should be laid down that the persons to be appointed to perform this test should be duly qualified Veterinary Surgeons.

(b) The Solicitor reported to the Committee the further proceedings in Parliament and stated that a promise had been made on behalf of the Government that in the appointment of the special inspectors under Clause 109 the claims of Veterinary Surgeons should be considered.

Schedule III, paragraph 1, had been amended as follows:—

"No horse shall be taken underground until it is four years old and until it has been tested by a duly qualified Veterinary Surgeon in the prescribed manner, and certified to be free from glanders."

(c) It was resolved that in the opinion of this Committee it is in the public interest that the inspectors to be appointed under Clause 109 should not be laymen, but duly qualified Veterinary Surgeons, and the Solicitor was instructed to make arrangements for a Deputation to be received at the Home Office in order to represent the views of the Council as to the regulations to be drawn up for carrying out the provisions of the Act.

Motor and Petrol Taxes.—It was reported that an amendment had been put down on December 12th, 1911, by Mr. Sanderson, M.P. to Part 1, (4) of the Fifth Schedule to the Finance Act, to extend the allowances in respect of duty on motor spirits to Veterinary Surgeons, and a similar amendment to Section 86, Sub-section 4 of the Finance Act, with regard to motor duties. These amendments were, however, not successful.

Sale of Alcohol.—It was reported that the following amendment to the Finance Act had been moved in Parliament by Mr. Glyn Jones, M.P., and accepted:—

"Any manufacturing or wholesale chemist and druggist who requires a license for the purposes only of selling rectified spirits of not less than 43 degrees above proof for chemical purposes to duly qualified medical practitioners or duly registered Pharmaceutical chemists or chemists and druggists, or persons requiring the spirits for scientific purposes in any laboratory, and undertakes not to sell spirits otherwise than for those purposes, and to those persons, may obtain a license on payment of a reduced duty of ten guineas."

The Solicitor reported that a petition from the Council praying that the words "or Veterinary Surgeons" should be inserted after the words "Chemists and Druggists" in the above amendment had been laid on the table in the House of Commons, and that an amendment to that effect had been proposed in the House by Mr. Sandys, M.P., without success. The words in italics had, however, been inserted by Mr. Glyn Jones, and they would, to a large extent, meet the requirements of veterinary surgeons.

Parasitic Mange Order, 1911.—The Secretary read a letter from the Board of Agriculture dated Nov. 24, 1911, enclosing a copy of the Parasitic Mange Order for 1911.

It was resolved that Section 3 of the Order be reprinted in the Register of Veterinary Surgeons, together

with a copy of the Animals (Notification of Disease) Order of 1910.

General Purposes. Repairs. The Secretary reported repairs to the College buildings which had become urgently necessary, and the action he had taken was approved.

Mr. GARNETT read the following report of a meeting of the Parliamentary and General Purposes Committee held on Thursday, Jan. 11th, 1912:

Correspondence. (a) A letter was received from the Royal Sanitary Institute with regard to the appointment of a delegate at the Congress at York in July, 1912. And it was resolved that no action be taken.

(b) The Secretary reported the receipt of an Act to regulate the practice of veterinary surgery in Western Australia. And it was resolved that the matter be referred to the Melbourne University Degree Committee.

Coal Mines Act.—The Solicitor reported that he had been informed that regulations dealing with the inspection of animals were likely to be drawn up in the near future under the Coal Mines Act, and that a deputation from the College would be received if necessary.

It was resolved that the President, Sir John McFadyen, Messrs. Garnett and Mulvey be appointed a deputation to wait on the Home Office in connection with the regulations for the inspection of animals in mines.

Bills passed into law. The Chairman reported that in addition to the Coal Mines Bill, the Public Health (Ireland) Bill, 1911, had been passed into law, dealing with the making of bye-laws for the inspection of meat. And it was resolved that the President of the College be requested to watch the matter in the interest of the profession.

Private Bills.—The following Private Bills were submitted and considered:—Kingston-upon-Hull Corporation, Keighley Corporation, Sheffield Corporation, Shipley Urban District Council, Swansea Corporation, Tavistock Urban District Council.

It was resolved that with regard to the Swansea Corporation Bill, the Secretary be instructed to write pointing out that in Clause 106 the words "or of the medical officer" should be deleted.

Patent Medicines.—It was reported that a Parliament Select Committee was about to be appointed to inquire into the question of patent medicines.

And it was resolved that an endeavour should be made to obtain a representation on the Committee, and that the matter be left in the hands of the President with power to act.

Mr. GARNETT: I should like to say, in proposing that those reports be received and adopted, that there has been a considerable amount of work thrown upon Mr. Thatcher, our solicitor, in carrying out the business that has been entailed in regard to the Coal Mines Bill and the Finance Act during the past Session of Parliament, and I feel that it is only expressing the desire of the Parliamentary Committee that Mr. Thatcher should be specially thanked for his assistance in Parliament, sometimes night after night without any purpose, sometimes for a very great purpose, on behalf of this Council. (Hear, hear.) Without him, situated as we are, we could not possibly have carried into effect any of the provisions that we have been able to gain in either of these Acts. (Cheers.) I have very great pleasure in moving the adoption of the reports of the Committee.

Major Genl. THOMSON: I second that.

Prof. DEWAR: You said that a deputation was going to be received in connection with the preparation of the bye-laws under the Coal Mines Bill, if it was necessary. Is it the Home Office that is going to consider whether it is necessary that this Council should send a deputation?

Mr. GARNETT: At the present time I think it is perfectly satisfactory, and that we will be called upon to give an expression of opinion before any regulations are framed under the Coal Mines Bill. (Hear, hear.)

Mr. BARRETT: May I say one word in appreciation of the services which Mr. Thatcher has rendered in regard to these matters? I do not know if he will get any remuneration or not, but I know from my personal knowledge that he has attended the House of Commons on many occasions, and has devoted very much time and attention to our business there. I should, therefore, like very much to support what Mr. Garnett has said with regard to him. If he would move I would certainly second that the Council pass a vote of thanks to Mr. Thatcher for his services, which have been very onerous and very trying indeed. (Hear, hear.)

Mr. MULVEY: I should like to support the remarks made by Mr. Garnett. From time to time it is my unfortunate duty to criticise the accounts, but I should like to say that, having considered the accounts that have been sent in to this Council for the work that Mr. Thatcher has done, I am decidedly of opinion that his charges have been most moderate in every way.—(Cheers.)

Mr. LLOYD: I would like to ask one question from the Chairman of the Parliamentary Committee. Can he tell me what body in Ireland is going to draw up the Rules with regard to the inspection of meat? Is it left to the Local Government Board?

The PRESIDENT: Yes, the Local Government Board. Before putting the motion that the reports of the Parliamentary Committee be adopted, I should like also to give my voice in support of the words that have already fallen from the Chairman of the Parliamentary Committee and other members of that Committee. Mr. Thatcher has devoted a considerable amount of time to the business of this College, and, as I know, he has put in many hours at Westminster looking after the interests of the profession. I am sure that no remuneration that we could offer would indicate to Mr. Thatcher how much we appreciate what he has done. The other speakers have voiced their feelings very clearly, and I am sure they have voiced the feelings of the whole Committee, but I would like it also to go forth that I personally appreciate very much indeed what Mr. Thatcher has done for the profession. I will not put it to you by way of a formal vote, for I take it that you will all give Mr. Thatcher a vote of thanks by acclamation for the great trouble he has taken, and for the successful work he has done for us.

The vote of thanks was carried by acclamation.

Mr. THATCHER, who was received with cheers on rising to reply, said: Mr. President and gentlemen, I thank you very much indeed for what you have said. It was suggested that I had not received sufficient or adequate remuneration, but I assure you that the thanks of you gentlemen assembled round this table in this way is more than sufficient reward to me for what I have done. (Cheers.)

The motion for the adoption of the reports of the Parliamentary Committee was then carried unanimously.

PUBLICATION COMMITTEE.

The SECRETARY read the following report of a meeting of the Publication Committee held on Friday, January 12th, 1912:

Register 1911.—The Secretary submitted a statement of accounts in connection with the printing and sale of the Register for 1911, which was approved.

Register 1912. The Secretary submitted copies of advertisements to be inserted in the new edition of the Register, which he was authorised to accept.

On the motion of Mr. Abson, seconded by Mr. Bannham, the report was unanimously adopted.

MELBOURNE UNIVERSITY DEGREE COMMITTEE.

The SECRETARY read the following report of a meeting of the Melbourne University Degree Committee held on the 12th January, 1912:

St. Vincent Ordinance. An Ordinance to make provision for the registration of veterinary surgeons for the Island of St. Vincent, was received from the Secretary of State for the Colonies.

And it was resolved that the communication be acknowledged with thanks, the document to be filed in the College archives.

Western Australia Veterinary Act, 1911. A copy of an Act to regulate the practice of veterinary surgery in Western Australia was received.

And it was resolved that the communication be acknowledged with thanks, the document to be filed in the College archives.

On the motion of Mr. Barrett, seconded by Sir John McFadyean, the report was unanimously adopted.

WILLIAMS MEMORIAL PRIZE AWARD.

The SECRETARY announced that Messrs. Woodhouse and Wilkinson, chartered accountants, certified that the following was a correct statement of the marks obtained by the candidates in the Final Year Examinations during 1911 who obtained 60 or more marks in the subjects of Veterinary Medicine and Hygiene:

London, July, 1911.	J. T. Edwards	63	66	--	129
" " "	G. F. Steevenson	61	60		121
Liverpool " "	S. K. Jones	60	60		120
London, Dec. "	C. Holland	60	60		120

The PRESIDENT: Gentlemen, you have heard the report of the accountants as regards the Williams Memorial Prize. Mr. Edwards apparently has gained the largest number of marks in the professional final examinations. Will someone kindly move that the prize, which is worth £9, be awarded to Mr. Edwards?

Sir JOHN McFADYEAN: I have pleasure in moving that.

Major-Genl. THOMSON: I have much pleasure in seconding that.

It was unanimously resolved that Mr. J. T. Edwards should be the Williams Memorial Prizeman for 1911.

FELLOWSHIP EXAMINATION.

The SECRETARY reported that an examination for the Fellowship Diploma was held on December 2nd, 1911, when four candidates attended, and the following gentlemen passed the examination:

Messrs. A. F. CASTLE, FRANCIS J. DUNNING, and R. L. PHILLIPS.

PLACE OF ANNUAL GENERAL MEETING.

Mr. TRIGGER: I beg to move that the annual general meeting be held in London as usual.

Sir JOHN McFADYEAN: I beg to second that.

Mr. MULVEY: I am going to move an amendment. Our President, as is well known, lives in Ireland, and is the Principal of the College there. I think that as a compliment to him we ought this year, at all events, to change our place of meeting. I therefore move that this year the annual meeting be held in Dublin. (Cheers).

Mr. TRIGGER: I have no feeling in regard to the matter at all. I simply moved my motion in the ordinary course, and I have pleasure in withdrawing it.

Mr. ABSON: I have very great pleasure in seconding Mr. Mulvey's motion.

Sir JOHN McFADYEAN: I approve of the withdrawal of Mr. Trigger's resolution, which I unthinkingly seconded.

It was unanimously agreed that the annual general meeting for the ensuing year should be held in Dublin.

The PRESIDENT: Gentlemen, I thank you very much indeed for the compliment that you have paid me by deciding that the annual meeting shall be held in Dublin, and I am sure it is a compliment that will be appreciated by all the members of the profession residing in Ireland. I hope that we shall be able to have a very successful meeting which will redound to the credit, and will further the interests, of the profession at large. (Cheers).

NOTICE OF ALTERATION OF BYE-LAWS.

Sir JOHN McFADYEAN: At the last meeting of Council the Chairman of the Examination Committee gave notice of certain alterations in our bye laws. This was merely to give effect to the recommendations made by a Special Committee to which the consideration of the bye-laws had been remitted. The notice of the intended alterations has, I believe, been suspended for the necessary three months, but Mr. Villar, the Chairman of the Examination Committee, who is unfortunately unable to be present to-day owing to an unforeseen and unavoidable engagement, has asked me to say that he does not desire to move that these alterations be now passed, because in spite of the very careful consideration which the bye-laws received, an alteration which really appears to be necessary, or at least highly advisable, has been overlooked. It is in connection with Bye-law 62, which according to notice suspended on the board reads thus: "Should a candidate conduct himself disrespectfully or otherwise improperly at any meeting of the Court of Examiners, the Chairman of the Class is empowered to stay the examination of such candidate, and report the transaction to the Council, who shall deal with the offender." Unfortunately the fact had been overlooked for a good many years that the Chairman of the class is, in ordinary circumstances, not present at the examinations, and therefore was unable to act as directed or empowered by the bye law. It is therefore proposed to alter Bye law 62 so that it shall read as follows: "Should a candidate conduct himself disrespectfully or otherwise improperly at any examination, the Chairman of the Class or the delegate or officer of the Council is empowered to stay the examination," etc. I therefore, on behalf of Mr. Villar, beg to give fresh notice of the intention to move these alterations of the bye-laws three months hence. I desire also, sir, to give notice of my intention to move at the next meeting of Council an addition to Schedule 1. I propose to move that the Matriculation Examination of the University of Bristol be added to the Schedule. It is a new examination. This is perhaps hardly the time to say so, but we have ascertained that it is an examination already recognised by the General Medical Council.

Mr. MULVEY: I suppose this is not the time at which to discuss these amendments, but when they are open for discussion at the end of three months I shall have something to say.

The PRESIDENT: Are there any other notices of motion?

Prof. DEWAR: I would like to ask this question, Mr. President. Supposing after these alterations have been suspended for three months an amendment is proposed to any of these alterations that have been put up, can that amendment be drafted on to the motion and agreed upon?

The PRESIDENT: No, it would have to be put up again.

The alterations of which Sir John McFadyean gave notice on behalf of the Chairman of the Examination Committee are as follows:

56. A Session shall be a period of not less than thirty weeks, exclusive of the recognised holidays of the Institution at which the Student shall have studied.

57. The Examination for the Diploma of Membership shall be held in each city in which there is situated an affiliated Veterinary School twice during each year as follows : In England and Ireland in July and December, and in Scotland in May and December. At the Quarterly meeting of Council held in July in each year the Council shall fix the dates of the Membership Examinations to be held during the following December, May, and July.

58. An Examination fee of five pounds shall be paid for each Examination, and successful candidates for the Diploma shall pay a further fee of one pound for registration.

59. Should a Student fail in any Examination he shall pay a further fee of three guineas for each re-examination.

60. No candidate shall be eligible for any examination unless the Examination fee be paid at least seven days prior to such Examination.

61. Any candidate who through misstatement, error, or false certificate shall seek, or be led, to apply for any Examination, shall be prohibited from undergoing that Examination, or if he has undergone it, shall not be permitted to enjoy the advantages to be derived therefrom, and shall be declared disqualified for such Examination for such a period as the Council shall see fit.

62. Should a candidate conduct himself disrespectfully or otherwise improperly at any examination, the Chairman of the Class, or the delegate or officer of the Council, is empowered to stay the Examination of such candidate, and report the transaction to the Council, who shall deal with the offender.

63. No rejected Student shall be eligible for re-examination unless he produces satisfactory evidence that he has attended a full term of ten weeks at a Veterinary College between the dates of rejection and re-examination.

64. If a candidate who has been rejected at a Final Examination fails to present himself for re-examination within one year (except in case of illness or other cause satisfactorily certified), he shall be precluded from further re-examination.

65. Candidates shall be tested in each subject by a written Examination where not otherwise specified, and an oral Examination on the living or other specimens. Written papers to consist of six questions, but only four to be attempted, except in Class D, when eight questions shall be set, and six attempted.

66. The written Examination shall commence at 10 a.m. on the days to be fixed by the Council. Each Examiner shall set three questions (except in Class D, when each Examiner shall set four questions), the answers to which he shall read, mark, and return to the Secretary as soon as possible. The time allowed for each subject is specified in the scheme set out in By-Law No. 67. Answers shall be written on one side of the paper only, and each question answered on a separate sheet. Each candidate shall be given an examination number and each paper shall be signed with such number only, and not with the name of the candidate. Passage of papers, references to books or documents, talking or copying shall render the Candidate liable to immediate dismissal from the examination room, at the discretion of the representative or representatives of the Council, present.

67. The subjects for each Examination, and the time to be devoted to each subject, shall be as follows :

EXAMINATION A.

1. Anatomy of Domesticated Animals : — Bones, Ligaments, Joints, (written, 2 hours ; oral, 15 minutes).

2. Chemistry and Elementary Physics (written, 2 hours ; oral, 15 minutes).

3. Biology : —Elementary Zoology and Botany (written, 2 hours ; oral, 15 minutes).

EXAMINATION B.

1. Anatomy of Domesticated Animals (written, 2 hours ; oral, 20 minutes).

2. Histology and Physiology (written, 2 hours ; oral, 20 minutes).

3. Stable Management and Manipulation of Domesticated Animals and Principles of Shoeing (oral only, 30 minutes).

EXAMINATION C.

1. Morbid Anatomy, Pathology, and Bacteriology (written, 2 hours ; oral, 15 minutes).

2. Materia Medica, Practical Pharmacy, Therapeutics, and Toxicology (written, 2 hours ; oral, 30 minutes).*

3. Veterinary Hygiene and Dietetics (written, 2 hours ; oral, 15 minutes).

EXAMINATION D.

1. Principles and Practice of Veterinary Medicine and Meat Inspection (written, 3 hours ; oral, 1 hour).

2. Principles and Practice of Veterinary Surgery and Obstetrics (written, 3 hours ; oral, 1 hour).

Examiners.

68. The Council shall appoint a sufficient number of persons to constitute the Court of Examiners, and shall from time to time fill any vacancies which may occur.

69. There shall not be less than two Examiners to each subject.

70. An Examiner in any one class, shall not examine in any other, in the same set of Examinations.

71. Each candidate for the office of Examiner shall, at least fourteen days before the date of election, intimate in writing to the Secretary (either by himself, or with his consent, by a Member of the Royal College of Veterinary Surgeons), his desire to be appointed, and submit with his application a statement of his qualifications, and a copy of any testimonials he may possess as to his especial fitness for the position he seeks. The name and qualifications of each candidate shall be suspended on the notice board at the College, as and when received, and appear on the circular convening the Meeting at which the Examiners are to be appointed. Each Examiner shall be elected for such period not exceeding three years as the Council may think fit. Each Examiner shall be eligible for re-election. Any Examiner shall be removed by the vote of two-thirds of the Members present at any meeting of the Council, to be confirmed by a Special Meeting called for the purpose.

72. Every member of the Court shall be entitled to such fees as shall from time to time be fixed by the Council.

73. Each Class of the Court of Examiners shall elect a chairman from amongst its members. In the event of any Examiner being unable to attend at any centre, the President, or, in his absence, the Chairman of the Examination Committee or failing these the Chairman of the Class in which the vacancy occurs, shall have power to select a substitute to act in his stead at each centre at which the Examination is to be held.

74. Local Secretaries to the Court of Examiners shall be appointed by the Council, and shall not be eligible to act as Examiners. Such Secretaries, acting on the instructions of the Secretary, R.C.V.S., shall be responsible for the arrangements of, and provision of specimens for, the Examinations at each centre in England, Scotland and Ireland respectively.

75. The marks to be used by the Examiners in the record of Examinations shall be indicated by numbers. One hundred marks shall be the maximum in each sub-

* At the Oral Examination two students shall present themselves at the same time, and shall be examined for fifteen minutes by each Examiner.

ject. The written and oral sections of the Examination shall be taken conjointly for the purpose of estimating the result of each Examination. An aggregate in the written and oral portions of forty-five per cent. in each subject shall qualify for a Pass. Sixty per cent. in each subject shall qualify for Second Class Honours, and seventy-five per cent. in each subject shall qualify for First Class Honours.

76. Each Student shall be examined in each subject of his Class, and at the conclusion of the Examination the Examiners shall confer, and the sense of the whole shall be taken as to the qualifications of the Students.

77. Should the result of the Examination of any Candidate appear doubtful to the Examiners, they may re-examine him. The award of marks made by the Examiners shall be final.

78. The Local Secretaries to the Court of Examiners shall immediately on the conclusion of the Examination notify in writing to the Council the names of Students who have passed the Examination and specify those who have gained honours.

79. A report of each Examination shall be drawn up and signed by the Chairman of each Class and shall be transmitted to the Council, stating the number of successful candidates, and the general standard attained in each subject, and referring to any other matters which it is desirable should be notified to the Council.

80. Copies of Examination record sheets shall be supplied to the Principals of each school.

81. One or more Members of Council shall be delegated to attend each Professional Examination. The travelling expenses of the delegates, together with an allowance of one guinea per night spent away from home on the business of the Examinations shall be defrayed out of the College funds.

82. Subject to the preceding Bye-laws as above, the Chairman of each class of the Examiners may refuse admission, during Examination, to any person whose presence may be deemed objectionable.

83. The President, or in his absence the senior Vice-President, may direct a Special Court of Examiners to be holden on any emergency.

Admission to Membership.

84. No Student shall be entitled to receive the Diploma, or have his name entered on the Register of the Royal College, until he has completed his twenty-first year, but he may present himself for his Final Examination, provided he would complete his twenty-first year before the date of the next Examination to be held at the centre where his course of studies has been pursued.

OTHER BUSINESS.

MR. STOCKMAN: At a meeting of the Organising Committee of the International Veterinary Congress, 1914, to be held in London, it was resolved yesterday that this Council should be asked to grant 10 Red Lion Square as the Official Office of the Committee. I would now like to propose that for the acceptance of the Council.

MR. ROBERTS: I second that, sir.

THE PRESIDENT: I am sure the Council will be only too willing to do what they can to assist the efforts of the Committee to make the Tenth International Congress a great success. I therefore formally put to the Council that permission be given to the Committee of the Tenth International Congress to utilise the offices of the College as their headquarters.

The resolution was carried unanimously.

THE PRESIDENT: Mr. Thatcher has an announcement to make which he thinks will be of interest to you.

MR. THATCHER: It is a matter of general interest to the Council. The question of the right of members to use armorial bearings of the College without extra payment was decided this morning by the Divisional Court,

and the opinion of the Judges was unanimous that if veterinary surgeons wished to do that they must pay a separate duty.

VOTE OF THANKS TO THE PRESIDENT.

On the motion of Prof. McCall, seconded by Prof. Dewar, a hearty vote of thanks was accorded to the President for his conduct in the chair, which the President briefly acknowledged, and the meeting terminated.

Use of the College Arms.

LONDON COUNTY COUNCIL v KIRK.—APPEAL.

The Appeal of the London County Council from the decision of Mr. Curtis Bennett, the magistrate at Bow Street, came before the Divisional Court in the King's Bench of the High Court of Justice on Friday morning, 12th January, 1912. The judges were the Lord Chief Justice, Mr. Justice Pickford and Mr. Justice Avory. Mr. A. H. Bodkin, instructed by the Solicitor to the London County Council appeared as counsel for the Appellants, and Mr. F. T. Barrington Ward, (instructed by Mr. Philip Conway) appeared as counsel on behalf of the respondent.

Mr. Bodkin, in opening the case for the appellants said the case was originally dismissed by the learned magistrate at Bow Street, and the appellants thereupon applied for a special case. The question involved was whether a gentleman who was a member of a Collegiate or Corporate body was entitled, for his own private business purposes, to use the armorial bearings of that body on his notepaper or in other ways without taking out a licence under the Revenue Act of 1869. The learned magistrate seemed to have come to the conclusion that Mr. Kirk was not using the armorial bearings in the sense given to that word in the statute, and dismissed the summons. The information was laid under Section 17 of the Revenue Act, 1869, which made it an offence for any person to wear or use any armorial bearings without having a proper licence under that Act. The Section which provided the licence duty, which was a guinea, was Section 18 of the same Statute: For armorial bearings. If such armorial bearings shall be painted, marked, or affixed on or to any carriage—£2 2 0. If such armorial bearing shall not be so painted, marked or affixed, but shall be otherwise worn or used—£1 1 0. The only exemption in the Statute to the necessity of taking out a licence was provided by Section 19, Sub-section 1, which provided that "It shall not be necessary for any member of the Royal Family to make any declaration or to take out any licence under this Act, nor shall it be necessary for the sheriff of any county, or mayor or other officer in any corporation or royal burgh serving an annual office therein, to take out a licence for any servants, carriages, or horses employed or kept by him for the purposes of his office during his year of service, nor for any person who shall by right of office wear or use any of the arms or insignia of any member of the Royal Family, or of any corporation or royal burgh, to take out a licence in respect of the use of such arms or insignia." "Corporation" in that sense he submitted meant the kind of Corporation which was mentioned earlier in the Clause.

The Lord Chief Justice said the proceedings in the present case were not against a Royal College, but against a man.

Mr. Bodkin replied in the affirmative. Proceeding, he said that under the same section, Sub-Clause 13, armorial bearings were defined as follows: "Armorial bearings" means and includes any armorial bearing, crest, or ensign, by whatever name the same shall be called, and whether such armorial bearing, crest or ensign shall be registered in the College of Arms or not."

The Lord Chief Justice said the exhibit in the case, a letter written by Mr. Kirk on the note-paper in question had on it the arms of the Royal College, but no reference to the Royal College, and his own name appeared in a kind of garter, "William Kirk, Veterinary Surgeon". There was nothing to shew those were not his own arms.

Mr. Bodkin replied that that was so, and that he did not know the general public would be acquainted with the proper arms.

The Lord Chief Justice said it seemed to have been suggested that the placing of the arms on the notepaper would tell people that he was a member of the Royal College. How it was going to do that he did not know.

Mr. Bodkin said he did not think the words *vis unita fortior* would indicate that to the general public.

The Lord Chief Justice: What does that mean? I think you ought to tell us, Mr. Bodkin. (Laughter.)

Mr. Bodkin: I think my friend, Mr. Barrington Ward, will probably meet that point. (Laughter.) Mr. Bodkin proceeded to read the following facts which were set out in the case stated by the Magistrate:

"The following facts were proved in evidence or admitted by the parties before me:—(a) The respondent practises as a member of the Royal College of Veterinary Surgeons at 9, Bailey Street, W.C. (b) In connection with and for the purposes of the said business and practice he used, and has used for many years past, certain headed notepaper, and was using the said notepaper on the day alleged in the said information. (c) The sheet of notepaper in respect of which the said information was laid is annexed to this case and marked "H.C.B.I." It is the respondents ordinary business (not private) notepaper. (d) The device on "H.C.B.I." consists, in the centre, of the proper arms of the Royal College of Veterinary Surgeons stamped in black on a description of shield stamped in relief upon the said paper, the whole being enclosed within an ornamental circular device bearing the words "William Kirk, Veterinary Surgeon." Apart from such device there is nothing on the said notepaper to indicate that the respondent is a member of the Royal College of Veterinary Surgeons. (e) No licence in pursuance of Section 18 of the Revenue Act 1869 (32 and 33 Vic. c. 14), has ever been taken out by the respondent, authorising him to wear or use the said armorial bearings. (f) The Royal College of Veterinary Surgeons take out annually, under the said Statute, a licence to use and wear the said armorial bearings. There are about 3,000 veterinary surgeons in England who are members of the said Royal College of Veterinary Surgeons."

The Lord Chief Justice: If this decision is right, all those gentlemen can use that same device and can say they are not liable to pay that licence?

Mr. Bodkin: That is the contention. "(g) The respondent uses, and has used the said headed business notepaper as an indication that he is a duly qualified veterinary surgeon. It was contended before me by the respondent that it was not necessary for him to take out any licence under the Revenue Act 1869 in respect of the said armorial bearings appearing upon the said business notepaper; that he being a member of the said Royal College of Veterinary Surgeons was entitled to use the armorial bearings thereof as indicating his membership without taking out any licence in respect of such user for such purpose; that he was not "using" the said "armorial bearings" within the meaning of the said Revenue Act 1869, as he used them only for the purpose of giving notice to the public that he was a duly qualified veterinary surgeon and a member of the said College; and that the said Statute only rendered a licence for armorial bearings necessary when a person used his own armorial bearings."

It was contended before me on the part of the appellants that the said device upon the respondent's said

business notepaper amount to "armorial bearings" and were in fact the true armorial bearings of the said College: that although the said College took out a licence in respect of its own user of such armorial bearings as a Corporate Body, that fact did not justify the use of such armorial bearings by members of the said College for their own business or other purposes without proper licenses; that the definition in Section 19, Sub-section 13, of the Revenue Act 1869 included the said armorial bearings; that by reason of the character of the device on the said notepaper as shown on "H.C.B.I." the respondent must be taken to be "using" within the meaning of the said Statute the said "armorial bearings"; and as he used them for his own benefit in his own business to indicate his position in the profession of veterinary surgeon, he was "using" such armorial bearings within the meaning of the said Statute; and that it was not necessary in order to render a licence necessary under the Revenue Act 1869, that the armorial bearings used by a person required to take out a licence should be his own armorial bearings, or armorial bearings properly or heraldically so called, but that a person using a device amounting to armorial bearings as defined under the said Act, is required to take out a licence.

I was of opinion that the respondent was not liable to take out a licence to use armorial bearings under the said Revenue Act 1869 under the circumstances above set forth; that he was only using the said device upon his said business notepaper as an indication that he was a veterinary surgeon and a member of the College, and that for a member of the said Royal College of Veterinary Surgeons to use the recognised armorial bearings of such a Corporation to indicate his membership thereof was not "using" armorial bearings within the meaning of the said Revenue Act 1869, and I accordingly dismissed the said summons. The question for the opinion of this Honourable Court is: Whether I came to a correct determination in so dismissing the said information as above stated. If I was right in law in so dismissing the said information the said dismissal is to stand; if not, the case is to be remitted to me with the opinion of this Honourable Court thereon."

The Lord Chief Justice: I cannot understand at present why it is an indication that he was a veterinary surgeon.

Mr. Bodkin said he was in Court at the time the learned Magistrate decided the case, and heard the Magistrate say he had looked at Johnson's Dictionary for a definition of armorial bearing, and found it was "The Arms or Escutcheon of a family."

The Lord Chief Justice said that that was not the ground of the Magistrate's judgment. Had there been any cases decided about clubs?

Mr. Bodkin replied in the negative. The learned Magistrate in his judgment further mentioned the illustration of persons playing cricket or some other game, and wearing caps or garments bearing College arms, and asked whether that could possibly be said to be a user of armorial bearings which would necessitate cricketers or football players taking out a licence. He submitted those instances were entirely different from the present case.

The Lord Chief Justice said that the use of arms on notepaper was the commonest thing possible.

Mr. Justice Ivory stated that in his recollection every undergraduate used the arms of his College upon his notepaper and on letters which were written on purely private business.

Mr. Bodkin: But only at College, my lord.

Mr. Justice Ivory: Yes.

Mr. Bodkin: And that is the real distinction that I am venturing to draw. If the respondent was in such premises as the Royal College of Veterinary Surgeons possesses, and was using in that building for the purposes of the College the College notepaper, the licence

taken out by the Corporation would cover his user of that paper, but if he took that notepaper away.

The Lord Chief Justice : You need not go as far as taking the notepaper away, which might be an accident; but here this gentleman has put within his own name a crest, and there is nothing in the world to show it is not his own crest, and nothing to show it is the crest of the Royal College.

Mr. Bodkin : That is so, my lord.

The Lord Chief Justice : Why I ask that is that I constantly write on notepaper with the Arms both of Oxford and Cambridge upon it, and I thought I might be liable in other respects for the use of other arms. But you do not pay twice over. You can use any arms you like once you have paid, and that is why I asked whether a club case has ever come before the Courts.

Mr. Bodkin : As far as I can discover no club case has ever come before the Court.

The Lord Chief Justice : In the Benches of the Temple the barristers use the notepaper with the Arms of the Lamb and the Horse upon it.

Mr. Justice Avory : They do that in the Common Room.

Mr. Bodkin : Yes, but if a member of the Bar put a horse on the top of his notepaper he would have to pay the license duty, I submit.

The Lord Chief Justice : That would be this case !

Mr. Bodkin : Yes, because I should be using for my own purpose Arms which amount to Armorial Bearings within the Statute.

Mr. Justice Avory enquired whether there was any other exemption in the Statute except the one in Section 19.

Mr. Bodkin replied that that was the only exemption.

Mr. Justice Avory enquired if that was so why the Inland Revenue printed upon the yellow demand note that in the case of Armorial Bearings there was an exemption in the case of clubs and members of a society using the Armorial Bearings on the business of the society.

The Lord Chief Justice stated that he had never looked at such a yellow paper.

[One of the yellow papers in question was then handed up to his lordship who read the following statement from it : "Exemptions. Licences are not required from : 1. The Proprietors of Public Stage Carriages or of Hackney Carriages Licensed by Local Authority, in respect of any Armorial Bearings marked thereon, or on the harness used therewith. 2. Shopkeepers in respect of the use of Armorial Bearings or Devices solely as trade marks, and in the course of trade. 3. Any Officer or Member of a Club, or Society, using at the Club, or on the business of the Society, any Armorial Bearings for the use of which such Club, or Society, has taken out a licence." I am much relieved by that. I never read it before].

Mr. Justice Avory : This must be the result of some decision, or is it mere departmental law ?

Mr. Bodkin : It is the practice.

The Lord Chief Justice : Is there any settled case in regard to the clubs ?

Mr. Bodkin : No. This exemption 3 on the demand note refers to use at the club premises.

The Lord Chief Justice : It does not cover this case. It seems to go further than the Statute had authorised.

Mr. Bodkin : All members of a club are supposed to be in their own private house, and all have equal rights.

The Lord Chief Justice : Take the case of a cabbie using my harness with my crest upon it, or my carriage. What is the authority for letting him off ? Suppose I sell my carriage to you and you are very proud of the Arms on it, and use it. Can you do that ?

Mr. Bodkin : No, quite apart from the penalties of impersonation which might arise. (Laughter.)

The Lord Chief Justice : We really want to know how that exemption got there.

Mr. Justice Avory : The words which I think are important, if they have any authority, are "any member of a Society using on the business of the Society." That seems to create an exemption if the Arms of the College were used on the business of the College, but if there is no authority for it that does not apply.

Mr. Bodkin : There is no statutory authority for it. It is a reasonable interpretation, as I submit, of the Statute that if there is a licence at a place taken out by a corporate body which does not write itself, the members who are acting on behalf of that corporate body or under the immediate shelter of the licence would not be themselves obliged to take out a licence under this Statute ; but if a person independently of the purposes of the Society, or away from the premises which are sheltered by the licence, uses the Armorial Bearings for his own purpose, then he is bound to take out a licence. That is the practical view which the Inland Revenue have put on this Statute.

Mr. Bodkin, in conclusion, proceeded to quote two legal authorities in support of his contention that a person who used Armorial Bearings within the definition of the Statute was equally liable whether they were his own Arms or not.

Mr. Barrington Ward, in opening the case on behalf of the respondent, submitted that the decision of the learned Magistrate was right. There were, he contended, two quite distinct questions to be considered : one a mixed question of law and fact, namely, whether the particular emblem was an Armorial Bearing within the meaning of the Act, and secondly whether the defendant was using it within the meaning of the Statute. It might be a bold proposition, but he submitted that, in the circumstances of the case, they were not Armorial Bearings at all. He submitted, on the first point, that Magistrate had to ascertain as a question of fact what the particular device was.

The Lord Chief Justice : But he has not found them to be Armorial Bearings. What he has found is that he was using them to indicate he was a member of the College, but he was not using them within the Statute.

Mr. Barrington Ward : If I may say so with great submission, I do not think he has found anything very clearly at all. There is no specific finding anywhere, and I submit it is open to me to argue to-day that this device is really not an Armorial Bearing.

The Lord Chief Justice : The only reason I put that to you is that if it had been a finding of fact we might have been bound by it, but there is no finding of fact that they are not Armorial Bearings.

Mr. Barrington Ward : The region of fact is very narrow indeed : it almost at once becomes a question of law : because one only has to look at the note-paper and then read the definition and it is a question of law as to whether the one covers the other. Continuing, the learned counsel submitted that looking at the document and bearing in mind that it did not matter whether it was a man's own Arms or not, the magistrate had to ask himself what was the purport of the emblem. He submitted that was a question of fact, and that the magistrate had found on that part of the case that the purport of it was to indicate to the world at large that Mr. Kirk was a duly qualified veterinary surgeon.

The Lord Chief Justice enquired whether that exemption was contained in the Statute.

Mr. Barrington Ward submitted that it did not come within the terms of the Statute at all, because whatever was being used it was not an Armorial Bearing, because some limit must be put upon the definition.

The Lord Chief Justice asked what there was to show, looking at the note-paper, that the gentleman was a member of the College.

Mr. Barrington Ward submitted that it was not so

much a question of what was actually shown but what was in his mind at the time, what he was using it for. Was he using it for his own glorification, or was he using it as a warranty to the public that he was a duly qualified veterinary surgeon. The magistrate had found that all Mr. Kirk intended to do was not to glorify himself in any way but to hold himself out to the public, as the fact was, that he was a duly qualified veterinary surgeon.

Mr. Justice Avory enquired whether that was not a form of glorification.

Mr. Barrington Ward submitted not; it was simply a question of trade. In the absence of authority on the point he desired to submit one or two illustrations. He contended that the use of the Armorial Bearings in the present case was in the same category as the pole that a barber exhibited outside his shop to show that the man was a duly qualified competent barber.

The Lord Chief Justice: Those poles used to be used; they have nearly all disappeared now.

Mr. Barrington Ward: Then there is the Highlander outside the tobacconists' shops.

The Lord Chief Justice: And the pawnbroker with the three balls outside his shop. (Laughter).

Mr. Barrington Ward: Yes, and the pestle and mortar outside a chemist's shop. Take the case of the three balls. Suppose a man to indicate his business as a pawnbroker exhibits the three balls, those in some circumstances would be Armorial Bearings, but outside his shop obviously not; and I submit so long as he is carrying on the business of a pawnbroker and puts three balls up in the corner of his notepaper that those are not Armorial Bearings at all; they are merely a trade device indicating that he is a pawnbroker. I submit that Mr. Kirk is doing exactly the same thing. He is merely indicating to the public that he is a duly qualified veterinary surgeon.

The Lord Chief Justice: I do not want to press you, because it might seem unfair, but look at that notepaper, and assume I received it. He has not put M.R.C.V.S. upon it. What is there to tell a man that that is not his own crest?

Mr. Barrington Ward: I say quite frankly that there is nothing there to show it.

Mr. Justice Pickford: What is the little thing at the top. Is it a man on a horse?

Mr. Barrington Ward: I think it is a kind of centaur.

Mr. Justice Pickford: Will you tell me whether you say that is a crest or not?

Mr. Barrington Ward: I submit it is part of a crest. I do not think it is the full Arms of the College.

Mr. Justice Pickford: I am not speaking so much of the Arms. Would you call that little thing at the top a crest?

Mr. Barrington Ward: I think there is no doubt about it.

Mr. Justice Pickford: Then Armorial Bearings are defined to be "Any Armorial Bearings, Crest, or Ensign."

Mr. Barrington Ward, continuing his argument, quoted another instance which he said was probably an extreme one, in which if a man took a coin of the realm, pressed it on a piece of paper, and then used that paper the applicants would contend that he was liable to pay for the licence under the Act. He contended that there must be some limit to the generality of the words contained in Sub-section 13.

The Lord Chief Justice said the question was whether Mr. Kirk came within the exemptions.

Mr. Barrington Ward said he was in the difficulty that he could not bring himself within the only statutory exemption, because the words of the Section meant some sort of municipal Corporation, and even assuming that he could rely upon that Mr. Kirk could hardly be said to be using the Arms by right of office inasmuch

as he was a member. That being so unless he could bring himself altogether outside the words of the Act, *i.e.*, unless he could show they were not Armorial Bearings, and that he was not using them, it was very difficult to see under what ground of exemption he came. He submitted that the Magistrate, having gone into the matter and having ascertained that the real nature of the user of the emblem was simply as an indication to the public, their lordships should not interfere with the decision—that the question should be treated as a mixed question of law and fact, and in so far as it was a question of fact that the finding should be supported. With regard to the second point, whether the respondent was using Armorial Bearings within the Act, he submitted the word "using" must have some limit. "User" must mean user for some purpose. He submitted the distinction was, Was Mr. Kirk using it to mark himself off as an individual, or was he merely using it to show to the public that he was a member of a particular class? If the former, then of course he was within the Act; if the latter then he submitted he was not. He submitted that a person who used an emblem merely to show that he belonged to a particular class of persons, in accordance with the illustrations he had mentioned, could not be said to be using Armorial Bearings.

The Lord Chief Justice: I want to do justice to Mr. Kirk, but I cannot see how this notepaper can be any indication at all that he is a member of the Royal College of Veterinary Surgeons. One person in a thousand does not know what the Arms of the College are.

Mr. Barrington Ward: It is not a sort of question, my lord, that one can usefully argue at any great length, because it is more or less a question of impression. One looks at that notepaper, and either it is or it is not. All I can submit to your lordships is that by these various analogies that I have endeavoured to use there must be some limit on the word "use" in the Statute, and I submit the limitation must be the purpose for which the user takes place. Is it to distinguish the gentleman himself, or is it merely to mark him off as belonging to a particular class of persons? An undergraduate or a graduate at Oxford or Cambridge does not use his College Arms in any way to aggrandise himself; he uses them to show that he belongs to the Society.

The Lord Chief Justice: I thought I was rather aggrandising myself when I put the Arms of Trinity on the top of my writing paper. (Laughter).

Mr. Barrington Ward: The only aggrandisement would be in marking out yourself as being a Trinity man to other people. That, I submit, is different from marking oneself out to be a distinguished person because one happens to bear Arms which do not belong to you.

Mr. Justice Avory: If a man uses a Coronet he is representing himself to be a member of the House of Lords, but you say that is not for his own personal aggrandisement but only to represent he is a member of the House of Lords.

Mr. Barrington Ward: My lord, any argument, based upon that body is sometimes apt to be dangerous! (Laughter).

The Lord Chief Justice: Oh, you may say what you like, Mr. Ward, about the House of Lords. (Laughter)

Mr. Barrington Ward proceeded to argue that if their lordships found against the respondent, they should not mulct him in costs in view of the peculiar circumstances under which the dispute had arisen.

The Lord Chief Justice requested Mr. Barrington Ward to "wait and see" with regard to the question of costs, and without calling upon Mr. Bodkin to reply delivered the following judgment.

JUDGMENT.

The Lord Chief Justice: In my judgment the learned Magistrate, to whose opinion we always attach the

greatest weight, has gone wrong. He has thought that as the device was only being used on Mr. Kirk's notepaper as an indication that he is a veterinary surgeon and a member of the College, he was not within the Statute. We have the thing before us here, and it is a little difficult to understand how it can be thought it was an indication that he was a member of the Royal College of Veterinary Surgeons; all that we see is the crest. Of course if it does happen to go to a particular individual who knows the arms he may draw that conclusion, but it seems to me that that is much too narrow a view to take of it. We have got to deal with what the practical effect of it is. The practical effect is that Mr. Kirk has put upon his notepaper, with his own name as a veterinary surgeon there situated, Armorial bearings, and he uses that paper in the course of his business. Under those circumstances, in my opinion he comes under the words "Armorial bearings which are not upon a carriage, that is, so painted, marked or affixed, but shall be otherwise worn or used," and it seems to me that the common use of armorial bearings, one of the most common uses, is on notepaper, and he comes within those words.

Now is it within the exemption? It is agreed by Mr. Ward, who has argued every possible point, that there is no statutory exemption. Then it is said that we are to hold he does not use them at all because he, in his own mind, had the idea, in assuming that, or indicating that he was a member of the College. In my opinion that is not an exemption within the Statute; there is no authority of case law based upon the Statute, or construing the Statute, which affords any such exemption. It seems to me, therefore, this is a very plain case of use of armorial bearings without paying a licence.

On the case as stated, the exemptions on the yellow paper do not help Mr. Ward's client. He says that some case might have been made about the use of them which does not arise here; but one cannot help pointing out that these yellow paper notices have not any statutory authority, and if that may be supposed to be the practice of the Office, there is nothing in the practice so indicated that helps Mr. Ward's client in this case. I am not sure that those particular yellow paper exemptions are properly before us, but I have looked at them because they were referred to by my brother Avory, and Mr. Ward had them here ready for us. I think this case must go back to the Magistrate with a direction to convict.

Mr. Justice Pickford: I agree.

Mr. Justice Avory: I agree.

Mr. Bodkin: I ask that the appeal be allowed with costs. There has been a good deal of correspondence since the Magistrate's decision between the London County Council and the College, and the matters were pointed out to them as to how the legal position stood, but the College and Mr. Kirk went forward to get this decision. I submit that it is a matter in which costs should follow the event.

The Lord Chief Justice: I do not quite see why the costs should not follow the event. Have you anything to say that will move our souls to compassion?

Mr. Barrington Ward: I submit in a case of this sort, which is a test case, in which there is no authority one way or the other before, in a case where there has been a change in the method of collection of the revenue, and thereby a change in the practice, that there should be no costs. I have a letter here written as long ago as 1892 from the Inland Revenue Authorities saying that so long as the College paid the licence members might use the crest on their business paper with impunity.

Mr. Bodkin: In the College.

Mr. Barrington Ward: No, generally. I have the letter here, and if my learned friend likes I will read it. Mr. Kirk relied upon that.

The Lord Chief Justice: Who is it addressed to?

Mr. Barrington Ward: It was written by the Secretary of the Inland Revenue.

The Lord Chief Justice: We are really going into matters which are not before us. It is rather a long assumption to say that this particular individual relied on that letter.

Mr. Barrington Ward: I understand he actually made enquiries as to the matter, and that has been the practice of the Veterinary College since the date of the letter. I understand it came from the then Solicitor of the Inland Revenue and was addressed to the Solicitor of the College. May I read it?

The Lord Chief Justice: No, I do not think that is enough. We ought not to go into those letters. He has instructed you to fight the case on the merits, and not put it that he was misled or anything of that kind. He has persisted in the case; he defended before the magistrate and defends here. I think the appeal must be allowed with costs, with a direction to the magistrate to convict.

REVIEW.

FLEMING'S VETERINARY OBSTETRICS, INCLUDING THE DISEASES AND ACCIDENTS INCIDENTAL TO PREGNANCY AND PARTURITION. Third Edition, revised and modified by Prof. J. F. CRAIG, M.A., M.R.C.V.S. Demy 8vo. Pp. viij. + 528, with 160 Illustrations. Price 15s. net. Baillière, Tindall and Cox, 8 Henrietta Street, Covent Garden, London, W.C.

The first edition of this well-known work appeared in 1878, and the second in 1896. The present third one, in some respects, differs considerably from the earlier issues. Its arrangement has been somewhat simplified—for instance, it is no longer divided and sub-divided into books and chapters, but consists simply of a dozen chapters—and though the general plan of the work remains much as before, it has undergone considerable curtailment. This has been effected partially by omitting the consideration of the diseases of the mammary gland and of young animals, which were included in former editions, and partially also by condensing the remainder of the work. Many details which formerly appeared have been omitted, and as a result we have a distinct alteration in the character and scope of the work. It no longer marks an ambitious attempt to produce a complete and exhaustive work of reference upon veterinary obstetrics, but has been abridged, in the Editor's own words, "so that the work may be used as a short, handy text-book for students, while it may also be helpful and interesting to the veterinary practitioner."

The Editor has discharged a difficult task with considerable skill. Many portions of the work, especially those relating to certain diseases, have been practically re-written, the remainder has been revised and brought up to date, and at the same time the whole work has been judiciously compressed throughout. Upon the whole, the Editor has shown excellent judgment in selecting essential and discarding non-essential matter, and the book therefore will probably be quite as serviceable to the average student or practitioner as were either of its bulkier predecessors.

The work has now become, then, a fair-sized student and practitioner manual upon obstetrical anatomy, physiology, and pathology, including normal and abnormal pregnancy and parturition, the diseases incidental to both processes, and obstetrical operations. In its present modernised and abridged form it will be found to contain all that was most valuable in the earlier editions, and though it has lost some of its completeness of detail which marked those, it will, nevertheless, adequately replace them for all ordinary purposes of the clinician.

W. R. C.

Dick College and the City Veterinary work.

At a meeting of Edinburgh Town Council held in the Council Chambers, on Tuesday, Jan. 16th, the Lord Provost in the chair:—

On a letter from the Secretary, Royal (Dick) Veterinary College, asking that the veterinary work in connection with the Cleansing Department should be entrusted to the College, the Cleaning and Lighting Committee recommended that the request be not agreed to, but that Mr. Dewar be continued to be employed for this work. Mr. Lyon, moving approval, said the Committee looked at this matter purely from a commercial point of view. Mr. Dewar had been the standby of the Farm Committee in no ordinary sense, and they felt that it was their duty to the citizens that they should recommend that the arrangement with Mr. Dewar be continued. He had all the knowledge and experience of the horses required for their purposes and of the market value of the horses. Mr. Bruce Lindsay seconded, saying if Council was going to make the Committee responsible for the staff of 200 horses the Committee should leave it to the discretion of the Committee as to the man who was to advise them.

Mr. Young moved an amendment, pointing out that Principal Dewar had acted not as Mr. Dewar, but as head of the Dick College. He had not been doing this work alone, it had actually been done by the staff of the Dick College. The Council were giving £300 a year for a number of years by way of showing their interest in the College, it would be reversing that policy if they took away work of a yearly value of £130 or thereabouts. Not only would they be doing so, but they would be de-

priving the College of an amount of technical experience that was of enormous importance. Mr. Stevenson seconded, Mr. Macpherson supported the plea on behalf of the Dick College. Mr. Brydon Hogg argued that the Dick College, which was subsidised for teaching, should not indulge in competition in practice with the professional man. Mr. Cameron thought it would be better to stick to the services of the private practitioner. Mr. Stark considered it would be a disaster to their department to make any change, as Mr. Dewar had given them special services. The Lord Provost asked if it was fair to take this opportunity of breaking with the Dick College and giving the work to another person? They would not suffer by continuing with the Dick College, and he intended to vote accordingly. By 27 votes to 18, it was resolved to give the work to the Dick College.—*Edinburgh Evening News.*

Oil and Cake from Sunflower Seed.

Hull is the largest seed-crushing centre in the country, and a supply of sunflower seeds was received there from Odessa during the month. It is understood that the experiment has been successful, and that some of the cakes have been sent to Denmark, and others are being used nearer home, in Holderness. The oil is limpid and quick drying, and will, it is stated, be of great use. The meal derived from the crushing of the seeds will be made up into compound cakes, if the recent experiment proves successful. Sunflowers are grown extensively in South Russia, are very prolific, and yield more than double the percentage of oil derived from Soya beans.—*Hull News.*

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
G7. BRITAIN.													
Week ended Jan. 13	23		26				2	10	157	494	23	54	551
Corresponding week in	1911		23	14			4	19			41	35	447
	1910	28					7	17			31	19	192
	1909	24		37			5	7			27	33	252
Total for 2 weeks, 1912	42		50				9	24	348	1043	43	103	944
Corresponding period in	1911		33	84			9	27			68	66	763
	1910	64		69			12	29			81	51	282
	1909	46					13	40			54	67	440

* Counties affected, animals attacked: Kent 1, Warwick 1, Lanark 8.

Board of Agriculture and Fisheries, Jan. 16, 1912.

Outbreaks

IRELAND.	Week ended Jan. 13	...	...	...	...	...	...	...	19	2	83
Corresponding Week in	1911	...	...	...	...	...	...	1	24	6	99
	1910	...	1	1	...	...	...	4	18	1	1
	1909	...	...	...	...	...	...	1	25	2	4
Total for 2 weeks, 1911		...	1	16	...	...	...	4	40	5	100
Corresponding period in	1911	...	...	...	...	...	...	2	32	10	184
	1910	...	2	2	...	...	...	8	45	1	1
	1909	...	...	...	...	...	...	3	36	2	4

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 15, 1912

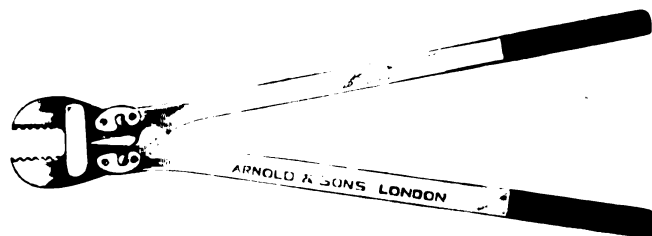
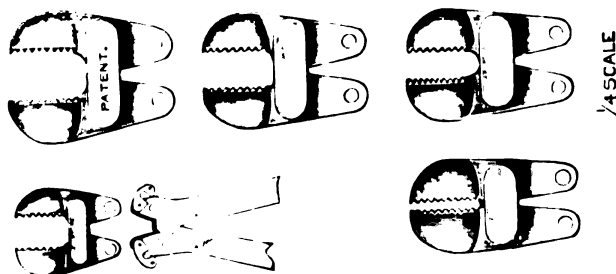
NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

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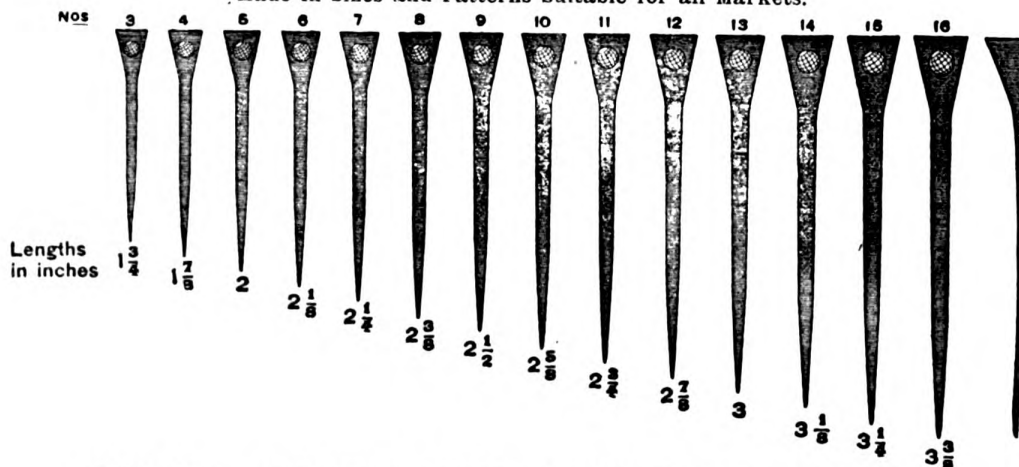
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JANUARY 27, 1912.

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The Central Veterinary Society

A GENERAL Meeting will be held at 10 Red Lion Square, W.C. on Thursday, February 1st, at 7 o'clock. Agenda. Routine business: Two remarkable cases—Pseudo-Tetanus or muscle fatigue, Toxæmia?? by Vety. Capt. C. H. H. Jolliffe. Motion, "To discuss the unfair treatment meted out to our profession when giving Expert Evidence at the Police Courts"—by Mr. J. Willett. Circular letter from the Association of Veterinary Officers of Health.

Members of the profession are invited to attend the meeting.
HUGH A. MACCORMACK, Hon. Sec.

Liverpool University V.M.S.

THE Annual General Meeting will be held at the University on Friday, February 9th, at 3-30. A Discussion will take place on Mr. Mattinson's paper—"Some Observations on Bovine Tuberculosis and a Pure Milk Bill." Other business. Election of officers, etc.
H. E. ANNETT: ARNOLD RICHARDSON, Hon. Secs.

Alteration of Date—Royal Counties V.M.A.

THE Annual Meeting will be held at the Gt. Western Hotel, Reading, on Friday, Feb. 9th, the chair to be taken by the president, Stewart Stockman, Esq., at 2-15. Agenda. Routine business: Subscription to V.B. Fund: Specimens and cases of interest: Address by the President. Dinner at 4-30 prompt. Tickets 5/-, exclusive of wine. Gentlemen intending to be present will please intimate not later than Tuesday, the 30th inst.
G. P. MALE, Hon. Sec.

Lancashire V.M.A.

THE Annual Dinner will take place at the Grand Hotel, Aytoun Street, Manchester, on Friday, Feb. 16th, at 6 p.m.
G. H. LOCKE, Hon. Sec.

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M.R.C.V.S. requires situation as assistant. Excellent references, experience in town and country practice. Address, 4016 V.R., 20 Fulham Road, London, S.W.

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To Veterinary Surgeons

M.R.C.V.S. single, aged 31, requires short assistantship in a good-class mixed practice with view to partnership or succession. Interview. Address, 2401 V.R. 20 Fulham Road, London, S.W.

As Locum or Assistant

M.R.C.V.S. (24) desires post, town or country. Practical and steady. Competent locum: Excellent references. Ride and drive. Address, 4401 V.R. 20 Fulham Road, London, S.W.

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As Manager or Assistant

MR.C.V.S. (1910) desires position as assistant or manager of branch practice. Experienced in city and country practice; excellent references. Address, 3013 V.R., 20 Fulham Road, London, S.W.

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UNQUALIFIED, age 36, height 6ft., weight 11 stone, large practical experience Colonies and country practice. Present engagement 2½ years, highest references, first-class testimonials. Address, 3011 V.R., 20 Fulham Road, London, S.W.

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MR.C.V.S., qualified July 1911, requires assistantship. served pupillage and has done locums in busy mixed practices. Castrate standing. Age 26½, height 5ft. 8in. References. Address, 3016 V.R., 20 Fulham Road, London, S.W.

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See also page VII.

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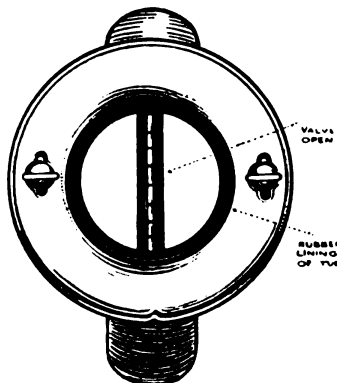
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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1229.

JANUARY 27, 1912.

VOL. XXIV.

AN ENQUIRY INTO PATENT MEDICINE.

The report of last Council meeting told us that a Parliamentary Select Committee is to be appointed to enquire into the question of patent medicines, and that the R.C.V.S. has decided to ask for representation upon it. The President has received powers to act to this end.

We expect no very radical reform as a direct outcome of the Committee, whatever its report and recommendations may be. The Government derives a large revenue from the sale of patent medicines, and is not likely to restrict it greatly until forced by public opinion. The Press, which so largely shapes public opinion, collectively draws a vast sum from the advertisements of medicine vendors, and many newspapers are sure to unctuously point out the self-interest underlying professional opposition to secret remedies. The last point really is a very serious obstacle. Undoubtedly the public would benefit indirectly by the total abolition of patent medicines. Speaking broadly, they either contain nothing that is likely to be very potent for either good or ill, or something which should only be used under professional advice, and all of them are often used in cases which urgently require professional advice. But though the public would benefit by their suppression, it is quite obvious that the professional man would benefit more directly; and this argument is so plausible that—considering the additional forces of vested interests and public credulity—we expect the traffic in patent medicines to flourish for a long time yet.

Nevertheless, we hope the R.C.V.S. will gain representation on the Committee. The enquiry is certain to have some educative effect so far as nostrums for human use are concerned, and we should like to see it extended to those for animals.

But we wonder what specific veterinary evidence will be forthcoming against patent medicines for animals—we know that medical men can furnish a good deal against those for mankind. A few years ago, for instance, *The British Medical Journal* analysed a large number of proprietary remedies, and published the constituents, estimated cost price, and sale price of each. The whole was issued in a small book called "Secret Remedies," which, needless to say, was practically ignored by the highly disinterested public Press of this Kingdom. Despite that the book did good, and its disclosures will probably be much in evidence before the proposed Committee. It is a pity that no veterinary society is wealthy enough to undertake a similar comprehensive series of analyses of quack medicines for animals. We might then expect some highly interesting revelations regarding the components of condition powders, fever draughts, healing lotions, and infallible cures for distemper.

PARASITIC GASTRITIS OF SHEEP.

Since about the middle of December last up to the present time the flocks in certain parts of the south-west of England have suffered severely from an outbreak of parasitic gastritis, and the mortality is still continuing. In West Somerset the greatest number of deaths has been observed amongst ewes, and these of all ages, though lambs of a year old have been affected; one breeder I have in mind has suffered severe loss in his pedigree yearling rams. What loss has been incurred amongst this season's lambs has been chiefly owing to the death of the mother with consequent starvation of the young lambs, in large flocks it being impracticable, in some cases, to bring up the sucking lambs by hand. In cases where the lambs have been old enough to look after themselves they have survived. In this neighbourhood the Dorset horned sheep are largely kept, and many cases have been observed amongst them, but the disease has not been confined to this breed, for Down sheep and crossbreds have been equally affected. This outbreak, at least, cannot be said to be the direct result of poor feeding, as in the majority of affected flocks to which my attention has been called, the sheep have been fed exceptionally well, to make up for loss of condition sustained during the drought of last summer. Losses of 70, 50, etc. have been incurred in certain flocks, but I have not yet been able to arrive at an average percentage. Lambing appears to have some influence in determining the incidence of the disease, as it has only been seen amongst ewes at various periods after that act has occurred, in fact one owner has affirmed that the most rapidly fatal cases in his flock have been in ewes that have had twin lambs. I give this statement for what it is worth.

I have in mind a flock where lambing has not yet commenced and no cases have occurred, though in the centre of the affected district. It will be interesting to observe whether this flock is attacked when lambing starts, but as the owner has decided to take advantage of his neighbours' experience and treat his ewes for gastric parasites at once, it is to be hoped that no confirmation of this statement will be arrived at. It appears feasible that the act of parturition and subsequent lactation may make such demands on the system as to lower it sufficiently to render it less able to withstand the attacks of the parasite.

Epidemics of this nature are usually said to occur in flocks pastured on low lying and marshy grounds, but my experience in this instance is directly opposite; the outbreak has affected flocks stationed on

the hills and elevated ground, and where there is little or no stagnant water, the water supply being almost entirely from springs or wells. If these flocks have been fed on contaminated pastures during the past year it is certain the long drought which has been experienced here has not had the effect of destroying the parasite in that stage of its life history which is passed externally to the body of its natural host, and this may be, perhaps, additional evidence as to the resistance of the egg or embryo to heat and dryness, on the supposition that no intermediate host is necessary to its existence, and that it spends that part of its life cycle in the open. The more or less continuous warm rains following the drought undoubtedly have been responsible for the renewed activity of the parasite, and favourable to its development in anticipation of ingestion by its favourite host.

Symptoms.—In cases where the ewe is still suckling lambs the first noticeable symptom is that the latter are doing badly, and then, if the ewe be examined, it is found that she has partly or entirely lost her milk, and in a short time she goes dry. Coincident with this is rapid loss of condition, elevation of the wool along the spine, cessation of rumination, and then profuse, watery diarrhoea, which is not intermixed with blood or mucus. In most cases there is oedema of the intermaxillary space and swelling of the upper lip. The visible mucous membranes are pale and anæmic, and there may be some elevation of temperature at the early stages. There is pronounced craving for water, the sheep taking every opportunity of drinking. The appetite rapidly fails, great prostration sets in, and then death. The course of the disease varies from three days to about a week.

Post-mortem.—On removing the skin and incising the body there is a noticeable absence of fat. In most cases the heart shows a gelatinous effusion beneath the pericardium at the base. The lungs, in some cases, may show a more or less severe condition of parasitic broncho-pneumonia, due to the presence of the *Strongylus rufescens* and *S. filaria*. In all instances in which this condition was found I was able to demonstrate both parasites. Cough, however, is not a noticeable symptom during life, although it may be observed in affected animals.

It is, of course, in the abomasum that the principle lesions are found, though it will be noticed that the other three divisions of the stomach contain ingesta rather moister than usual. Before incision the abomasum may be more or less distended with gases, but it is never tympanitic when fresh. Its contents will be found very fluid and of a dirty olive-green colour. The extent to which the mucous membrane of the abdomen is affected varies somewhat according to the severity of the attack. In one case the whole of it may be of a dirty claret colour, in others the discolouration may be confined to areas of varying size. That part of the duodenum nearest the stomach may show inflammatory areas, but I have never found the small intestine uniformly affected, or affected to any great extent. The large colon may also show some inflammatory areas, but there again they vary in

size and degree. The cæcum may contain fluid contents, but the intestine, as a whole, is empty.

Diagnosis. Precise diagnosis is determined by microscopic examination of the mucous membrane and fluid contents of the abomasum. On allowing some of the latter to stand in a glass tube or bottle the solid particles gradually sink to the bottom, and the upper stratum will then be observed to be distinctly blood tinged. For my own part, I have not found naked eye examination of either the mucous membrane or the stomach contents satisfactory, as the minute parasites are extremely difficult to distinguish when mixed with *débris* and small strands of vegetable fibre. It is far better to take a scraping from the former, or a drop or two of the latter, and place it under the low power of the microscope when the causal parasite may be easily seen.

The parasite responsible for the epidemic in question is the *Strongylus cervicornis*, M'Fadyean's excellent description of which will be found in the second edition of Neumann's *Treatise on Parasites*. In the cases I have examined I have found a practically pure infection with this parasite, but an occasional, though rare, strongyle of another species may be met with. In the worst cases they have been extremely numerous, every drop of the contents of the abomasum may reveal some, and if a very small portion of the sediment which forms on standing be examined many may be found intermixed with flocculi of mucus and vegetable *débris*. They may then be easily picked out with the point of a fine needle and transferred to clean water for a more minute examination. Closer inspection of the sediment will show many ova, and these, according to my experience so far, have always been in the morula stage, at different degrees of segmentation. I have not yet been able to find eggs in which the form of the future embryo could be distinctly traced, but on the other hand have found numerous free forms which appear to be embryos. In this respect, therefore, my experience is somewhat different to what was observed in the outbreak of gastritis due to this parasite detailed in Neumann. It would appear to be possible that the embryonic forms are those recently ingested by the host, and that the eggs which are emitted by the sexually mature, fecundated female worm within the body of the host do not attain any great degree of development therein. I have not been able to see any egg containing an embryo so far advanced in development as may be observed in those of the *S. filaria*, for instance, of the bronchi. The mature parasites vary greatly in length, the average in those that I have observed being rather less than that given by M'Fadyean. Those attached to the mucous membrane have been found to be shorter than those free in the stomach contents, possibly the latter are more advanced in development.

Treatment. Unfortunately I was not consulted till large numbers of sheep had died, and the disease was well established, but, provided the animal is not at the last stage of the disease, I think treatment should be attempted, and a fair amount of success looked for. I have found the arsenic and iron mixture recommended by Law very useful, as

well as the 1 per cent. solution of Iysol in half pint doses as suggested by M'Fadyean, but in the latter case some owners have asserted that severe constitutional effects are seen after administration—violent quivering of the muscles, and immediate death in some instances. I am of the opinion that these unfortunate cases are those in which the lungs were affected and the animal practically moribund. But other owners have not observed this result, and it may probably be due to not very careful drenching.

Ideal prophylactic measures are very difficult to adopt, at any rate here, but as the duration of life of the egg or embryo in the open is probably limited, it would, if possible, be as well not to graze sheep on pasture which has been contaminated with the excrement of affected animals for three years or so; perhaps, too, the periodic administration of suitable anthelmintics is indicated. It will be interesting to observe if later on in the year the lambs which are feeding with their affected mothers are attacked; it would seem, at any rate, that they are running considerable risk, and will continue to do so if they are again fed on this pasture when the grass grows again in the spring. Probably the future of those sheep which are folded on turnips, etc., on arable ground, which will in its turn be cultivated, will be of a healthier nature.

E. G. HASKELL.

Taunton.

ABSTRACTS FROM FOREIGN JOURNALS

ECHINOCOCCOSIS AND DISTOMATOSIS IN THE LIVER OF THE PIG.

Chrétien, sanitary veterinarian of the department of the Seine, says that, among the lesions which are encountered in the liver of the pig, a certain number, which have been very frequent this year, present themselves under the following aspect.

The lesions assume the form of whitish, rounded, slightly projecting tumours, varying from the size of a pea to that of a nut. They are distributed unequally, and by preference are superficially situated immediately underneath Glisson's capsule. When incised, they are found to be formed of a thick envelope of fibrous tissue surrounded by the hepatic parenchyma, and containing a small internal cavity, which holds sometimes a few drops of colourless or dull liquid, and sometimes, on the contrary, a small quantity of pus, which is more or less thickened, white or yellowish white, and sometimes calcareously infiltrated. The affection has no influence upon the hepatic lymphatic glands.

In some of these lesions, remnants of membrane are found mixed in the pus, and sometimes hooklets of *Tenia echinococcus*. The lesions are caused by encysted echinococci undergoing degeneration.

The liver of one pig, however, showed lesions having the same situation and exterior aspect as those just described, but quite different in their origin. A close examination showed some other differences between these and the preceding lesions, which Chrétien proceeds to indicate.

The thick fibrous envelope contained a small quantity of clotted material, brownish in colour, which could be enucleated fairly easily; the interior of the envelope had a shagreened aspect. Microscopical examination of the contents of these cavities revealed neither specific microbes nor parasites.

Sections cut at different points of these lesions showed them to be cysts having a fibrous peripheral envelope and a centre formed of a mass in which some cellular debris and some areas which had undergone calcareous infiltration could be distinguished. In places the calcification had even invaded the internal portion of the fibrous envelope. In the external area, the hepatic tissue showed very marked sclerosis, which gradually diminished as the lesion became more remote.

Two lesions of this liver were in a less advanced stage. Their fibrous capsule was not so thick, and enclosed a small cavity filled with brownish pus, into which opened a fine biliary canal, slightly sclerosed and partially obliterated. One of these two lesions contained a large adult specimen of *Distoma hepaticum*; the other contained three. The parasites were paler than those found in the ox and sheep, and the pus in which they were immersed contained no eggs of distomes.

In the remaining portion of the liver the biliary canals had undergone neither dilatation nor chronic peripheral inflammation; and they contained no parasites, either young or adult.

Chrétien concludes that the lesions in this case were consecutive to the penetration of the biliary canals by distomata in the embryonic stage. The presence of these parasites had caused an intense inflammation, resulting in the encystment, arrest of development, and degeneration of the parasites.—*L'Hygiène de la Viande et du Lait*,

HAY FEVER IN HORSES.

Walther, of Leipzig, discusses an affection which he regards as equine hay-fever, and describes one recent outbreak of it.

Last summer, in a garrison and its surroundings, a catarrh of the upper air passages attended with violent coughing appeared among the horses of the civil population, all the affected animals showing quite similar symptoms.

This catarrhal cough also raged among the horses of the cavalry regiment stationed at the place, and spread almost uniformly over all its squadrons. One squadron was especially severely affected, and in this 80 horses showed these symptoms. The cough was so violent, persistent, and painful, that horses attacked by it while in progression stood still, and assumed a crouching position, bowing towards the ground. The visible mucous membranes of the head were violently reddened and showed inflammatory swelling. Watery, slimy, lacrymal fluid flowed in great quantity from the eyelids, while a very great deal of thin mucus, mingled with thick flakes, came from the nostrils. The discharge was especially violent after the attacks of coughing. In five horses the condition was especially severe, the conjunctival being so swollen as to bulge out and project.

The circulatory system showed no abnormality; and the internal temperature rose to 102.2 F. and upwards in some horses only. The affected animals showed more or less dulness; but food and drink were taken, though more slowly than usual. The condition lasted one to three days, in some horses longer, and the animals recovered surprisingly rapidly. No unfavourable after-effects were observed.

This hay fever or hay catarrh, Walther adds, commences in the early summer at the time of the blossoming of the grass, and has passed its maximum by the time of the corn-harvest. It is not seen every year; and in many localities it seems to be unknown. The great number of the affected horses, the painful violent cough and copious secretion from the mucous membranes of the head, with the rapid recovery and benign termination, are the typical features of hay fever.

Walther attributes the condition to the irritation produced by the pollen of many species of grass plants, which are blown upon the mucous membranes of the eyes and respiratory organs and adhere there. He remarks that he has already briefly recorded the appearance and the symptoms of equine hay fever years ago; and he adds that Prof. Haubner, in his lectures, has incidentally mentioned the appearance of peculiar catarrhs, the etiology of which is still insufficiently understood, at certain periods of the year.—(*Berliner Tier. Woch.*)

[Has this condition been seen in any part of the United Kingdom?—*Trans.*]

AN EMBRYONIC FILARIA CAUSING SYMPTOMS OF DOUBINE.

Darmagnac reports (*Rev. Gen. de Méd. Vét.*) a case of a stallion shewing a cold and insensitive engorgement of the prepuce, which increased and reached the dependent portions of the abdomen. At the same time, œdematous pimples were observed upon the neck and shoulders, and upon the croup. Four days later, a circular patch, offering the objective characters of a lesion of dourine, appeared upon the ribs upon the right side.

These lesions persisted without notable change for three weeks, then retrogressed rapidly and disappeared completely in a few days. On the surface of the prepuce, however, traces of the condition remained in the form of unpigmented spots giving the region a peculiar marbled aspect.

In the blood taken from this horse, both that taken from the preputial swelling and from the cutaneous lesions (pimples and circular patch) a microscopic parasite was found. This possessed great mobility, could be clearly distinguished from the trypanosome of dourine on account of its much greater size, and appeared to be an embryonic filaria.

The parasite was from 200 to 250 micro-millimetres long—thus roughly about ten times the length of the trypanosome of dourine. In shape it was vermiform, rounded at its cephalic extremity, and extremely attenuated at the other. In colour it was clear white, with rather dark spots distributed

over the whole body. It was extremely rapid in its movements, which were effected by a sort of reptation; sometimes it attached itself to the glass by its cephalic extremity, and its tail then showed rapid oscillatory movements, which violently dashed about the blood corpuscles.

Whatever the hour of the day or night at which the blood was removed and examined, four or five of these hæmatozoa were generally found in each preparation. Their disappearance in the blood coincided with the disappearance of the lesions.

Injections of the blood made into the rabbit and the dog gave negative results.

The stallion received two subcutaneous injections of five grammes of atoxyl, but it was impossible to say whether these had had any influence upon the evolution of the disease.

The parasite was probably an embryonic filaria, but the author was unable to determine either the adult form or the agent of transmission.—*Annales de Méd. Vét.*

ANTISTREPTOCOCCIC SERUM IN THE TREATMENT OF PURPURA HÆMORRHAGICA.

Verlinde, of Anvers, says (*Bulletin de Méd. Vét. Prat.*) that the polyvalent antistreptococcic serum prepared by the Pasteur Institute of Paris is exceptionally valuable in the treatment of purpura hæmorrhagica. For years past he has employed this serum in the treatment of pneumonia, strangles, and purpura hæmorrhagica, and is completely satisfied with the results he has obtained.

It is in purpura hæmorrhagica that this serum has given especially remarkable results, which are so striking that Verlinde regards it as a "precious specific" in this disease. His mortality before using it was 50%, but during the four years that the treatment has been in use, he has not lost a single case.

Injected at the very onset of the purpura hæmorrhagica, the serum aborts the disease. Injected later, it controls the production of œdemas and favours and accelerates their resorption. The nasal petechiæ become pale and disappear much more rapidly than under other treatments. Nearly always the injection is followed by a fall of temperature, and the horse appears livelier and eats better.

Verlinde's usage is to give two injections daily, each of 10 c.c. of the serum, for the first two or three days of the illness. Afterwards he gives one injection daily for about a week longer, according to the progress of the case.—*Annales de Méd. Vét.*

W. R. C.

Veterinary Laws in Indiana, U.S.A.

Everyone desiring to practice veterinary medicine and surgery in Indiana, must, under the laws of that State as now amended, pass the State Board of Veterinary Examiners. Prior to the amendment, graduates from reputable college were given licences on presentation to the licencing board, of their diplomas, and they could demand same, even if they could not pass the State board.—*A.V. Review.*

INDIAN CIVIL VETERINARY DEPARTMENT

THE ANNUAL REPORT OF THE VETERINARY OFFICER INVESTIGATING CAMEL DISEASES: FOR THE YEAR ENDING MARCH 31ST, 1911.

The Report, written by Mr. A. S. Leese, the specially appointed investigator of camel diseases of the C.V.D., is now to hand. To an English veterinary surgeon it is interesting reading; to one in India, actually concerned with the treatment of camels, it is much more.

For the first three months of the year under report Mr. Leese was upon privilege leave, his place being filled by the Inspector-General of the C.V.D. For the remaining nine months Mr. Leese was in charge, spending the whole of this time in camp. Building operations for the accommodation of the veterinary officer and his staff were in progress during the year, but were not completed at its conclusion; and it is not surprising therefore, to see it laconically stated in the report that "The want of accommodation has again greatly hampered the work." Nevertheless, a great deal of good work has been done.

Surra, of course, is by far the most important disease of camels. The work connected with it—apart from the actual campaign against the disease as it exists in Camel Corps—falls naturally into two divisions, viz., investigations regarding transmission, and experiments in treatment. In both these directions, substantial progress has been made.

Observations upon transmission have been made chiefly upon tour—and here it may be remarked that more than one-third of the veterinary officer's nine months' work was spent upon tour. These observations have consisted partially in the examination of camels in the different areas visited, and partially in the study of the local conditions and of the distribution of biting flies. The last-named research has resulted in suspicion falling upon a hitherto disregarded biting fly, a *Lyperosia* (*Lyperosia minuta*, Bezzi), as a possible transmitter of surra in addition to the already recognised ones *Tabanus*, *Stomoxys*. Only once before (in Rhodesia amongst cattle) has *Lyperosia* been suspected as a transmitter of trypanosomiasis; but Mr. Leese's reasons for again suspecting it (which include the discovery of surra certainly contracted in a locality where neither *Tabanus* nor *Stomoxys* could be found, by *Lyperosia* was abundant) are certainly strong ones. Mr. Leese, writing in May last, states his intention of instituting experiments to definitely test the possibility of transmission by *Lyperosia*; these were to take place in July, and the question may well be settled by this time.

Very material progress has been made as regards the treatment of surra in camels. This portion of the year's work has mainly consisted in the detailed working out of the system of drug treatment which had yielded the best results in former years, viz., a combination of atoxyl (intravenously), tartar emetic (intravenously), and sodium arsenate solution (per os). The intervals and doses of these drugs, and the methods of administration, have now been studied so far that Mr. Leese states that "the amounts of each drug that the camel can stand given in these different ways is now pretty well defined," and he cautiously adds that "it seems as though cures have been obtained." Caution in this latter particular is very necessary, partly from the recurrent nature of the disease, and partly from the fact that spontaneous recoveries may occur, and indeed "are fairly frequent in camels carefully looked after by their owners."

Considering these circumstances, Mr. Leese's view is that "if a number of camels treated by one experimental method not too dangerous were to go six months under daily blood examination without relapse, it would

be good enough to recommend for trial in Camel Corps; if besides some had gone 15 or 18 months without relapse, it would give additional confidence." This sentence well shows the enormous amount of routine work involved in working out the problem of surra treatment. The year's work cannot yet be said to be conclusive; but, at the time the report was written, two camels treated by the three drugs mentioned above had each exceeded five months without relapse, and a third had exceeded 15 months. These results were obtained by a rather long treatment covering 37 days; and, as only four camels were subjected to it, the three apparent recoveries must be pronounced very encouraging indeed.

There are other short notes of interest in connection with surra, such as an experiment upon the incubative period, others—negative in results so far—upon the possible protective power of the serum of spontaneously recovered camels, and a description of a native clinical diagnostic test practised by the Rehbaris, and based upon a characteristic smell of the camel's urine during paroxysms of fever arising from surra. But surra is by no means the only subject figuring in the report. Some parasites and parasitic diseases are dealt with, notably *Linguatula* larvae and their association with peritonitis in the camel, and parasitic bronchitis due to *Strongylus filaria*, which, though not uncommon in Egyptian camels, seems to be rare in those of Northern India. Pus in the frontal sinus, due usually to traumatism from blows, is also considered in some detail; the salient points in the anatomy of the frontal sinus in the camel are described, and directions are given for a rational method of treatment, viz., trephining.

Lastly, the report concludes with a variety of hints upon the management and treatment of sick camels, with some special details relating to the diagnosis of various conditions common in these animals—such as pulmonary abscess as a sequel to lobar pneumonia, and "sore mouth," which is somewhat liable to be mistaken for foot-and-mouth disease. This section terminates with a list of drugs suitable for the camel, and their posology; the drugs recommended all being well known in bovine practice, and the doses but little larger than those given to cattle. Practically this concludes a report which, from end to end, is replete with evidence of good work in a subject in which good work has long been sadly needed.

Appended to the report is a short review of its contents by Lieut.-Colonel G. H. Evans, the Officiating Inspector-General of the C.V.D. This is altogether commendatory of the work done amongst camels during the year, and speaks in especially hopeful strain of the prospects regarding a cure for surra. We cannot conclude our brief summary of the report more fitly than by quoting Lieut.-Colonel Evans' final paragraph of personal reference to his subordinate. "Mr. Leese has been most energetic and unremitting in his labours to advance our knowledge of the diseases of the camel. Considering his work has been carried out very often in trying circumstances, the success achieved is highly commendable. I consider we are greatly indebted to him not only for the zealous manner in which he has carried on his work, but also for the progress made."

Dr. VERANUS A. MOORE, the Director of the New York State Veterinary College, was unanimously elected a Foreign Corresponding Member of the Société Centrale de Médecine Vétérinaire, Paris, at their sitting in November last.

In the Western section of the United States a temperature of 50deg. below zero was recorded on January 6th. Many persons were frozen to death, while thousands of cattle and sheep perished.

SWAMP FEVER IN HORSES.—By L. VAN ES., E. D. HARRIS and A. F. SCHALK. Bulletin Number 94. North Dakota Agricultural Experiment Station (Department of Veterinary Science). Fargo, North Dakota, U.S.A. September, 1911.

This "bulletin" is really a lengthy and comprehensive record of research work by these three authors, who are the veterinarians attached to the staff of the North Dakota Agricultural Experiment Station. It concerns a disease widely known in America as "Swamp Fever," which certainly causes considerable loss among horses, but is as yet very imperfectly understood. The value of the publication, however, is not confined to America, for there is good reason to believe that the same disease, under another name, has long been recognised in Europe.

Various French writers since 1843 have described an equine disease which has been generally called "infectious anæmia," and within the last thirty years a number of reports have been published upon what seems to be the same condition in various parts of Europe. Zschokke, Fröhner, Ostertag, Vallée and Carré, and Hutya and Marek, are among the best known writers upon the subject; and the disease has been recognised in France, Switzerland, Belgium, Germany, Sweden, and Hungary. It is not quite certain that this European disease is identical with the American swamp fever, but there are very strong reasons for supposing it to be so.

It is not absolutely known when and where swamp fever first attracted attention in America. It seems to have been prevalent in the Red River district for thirty years at least, and thence to have spread into Manitoba and parts of the North-west territories. Since then it has been described in many parts of the American continent, from Canada, where Torrance and Rutherford, among others, have described it, to so far south as Texas. The same disease, or one clinically corresponding to it, has even been reported from the Panama Canal zone. Here, again, it does not seem quite certain that all these reports relate to one and the same condition, but the existence of a single widely spread and serious disease is unquestionable. The amount of loss it occasions is also rather uncertain, as diagnostic difficulties render many of the present statistics of doubtful value. But its rate of mortality is certainly very high, and its continued geographical extension would be a very serious thing indeed.

The publication summarises the accounts which various authors have given to the disease both in Europe and America. Very different views have been advanced regarding its ætiology. Some have described micro-organisms in connection with it, and a number of surmises have been advanced regarding predisposing causes—one, not unsupported by clinical evidence, is that helminthiasis is a potent factor in this direction. It now seems definitely proved that the disease is infectious, and is caused by an ultra-microscopic virus which is transmissible either by the blood or by the digestive tract.

The symptoms present some variation, different authors dividing the cases into an acute and chronic type, or into acute, subacute, and chronic. Generally the disease may be described as an irregularly intermittent fever, with a progressive anæmia, rapid emaciation (though the appetite is usually keen), cardiac weakness, and prostration. Œdema and impaired locomotion, especially of the hinder parts, are often seen, as are also a number of other symptoms, such as polyuria, albuminuria, and a thin sanguineous nasal discharge. The duration of the affection varies greatly—from a few days to months, or even years.

Post-mortem appearances are varied, and not very characteristic. They include degenerative changes in

the various parenchymatous organs, petechiæ and ecchymoses of the serous membranes and endocardium in particular, œdemas, and alterations of the lymphatic glands and the bone marrow. These changes seem to indicate a general intoxication or septicæmia, and the present authors point out that secondary infections probably have a large share in inducing them.

Many different lines of treatment have been attempted, but none so far seem to have proved of marked value.

The present authors' results, which are reported in considerable detail, are in the main confirmatory of those of previous workers, but some of their conclusions seem to be important and suggestive additions to the existing knowledge. They find that swamp fever is an infectious disease, transmissible by subcutaneous and intravenous injection, and by ingestion. The virus is contained in the blood and urine of affected animals, but not in the faeces. So far the virus has only been demonstrated in an ultra-microscopic form; but the authors point out that this may be only one stage in its evolution, and therefore advise continued search for a micro-organism. The virus resists the severe freezing weather of North America. Possibly it may be transmitted by means of parasites and insects, but the authors suggest that animals contracting the disease naturally do so by the ingestion of food or water contaminated by infected urine. The chief and most constant symptoms, the authors find, are fever and albuminuria, and one of their most notable observations is the fact that many cases terminate *without* marked reduction in the red blood cells. This undoubtedly suggests that many cases of swamp fever have hitherto escaped diagnosis.

The authors also find that an animal's blood may remain virulent for fully thirty-five months after infection without any clinical symptoms being shown; and probably these non-clinical "carriers" play a great part in infection. So far, the authors can advise no preventive measures beyond such ordinary ones as the destruction of diseased horses, segregation of suspects, prevention of any contamination of food and water by urine, and so forth. They have tried trypan blue and atoxyl in the treatment of the disease, but find both useless.

The "bulletin" is a careful and valuable contribution upon a very obscure disease, and well shows how much there is still to be learnt regarding it. It also undoubtedly suggests that the disease may be much more common and widely spread than has yet been supposed, and on that account also it deserves to be widely known in America and Europe alike.

W. R. C.

CENTRAL VETERINARY SOCIETY.

A general meeting of the Society was held at 10, Red Lion Square, on Thursday, January 4th, the President, Mr. R. J. Foreman, occupying the chair. The following Fellows signed the attendance book: Messrs. J. C. Coleman, Alexander Crabb, F. H. Sanderson, J. F. Macdonald, Prof. G. H. Wooldridge, G. H. Livesey, J. Willett, R. Eaglesham, J. W. McIntosh, Sydney J. Slocock, B. Gorton, N. Almond, G. Gordon, Vety.-Capt. C. H. H. Jolliffe, A. L. Wilson, W. Perryman, T. S. Price, A. L. Butters, H. D. Jones, R. Bryden, A. Neish, James A. Gosling, C. A. W. Cunningham, J. A. G. Gosling, W. Willis, A. Rogerson, and Hugh A. McCormack, hon. sec.

Visitors: Messrs. J. Soulsby, T. J. Symes, J. W. Richardson, and T. W. Lloyd.

On the motion of Mr. McIntosh, seconded by Prof. Almond, the minutes of the previous meeting were taken as read and confirmed.

CORRESPONDENCE.

Letters regretting inability to attend the meeting were announced from Messrs. Charles Roberts, J. T. Angwin, and E. Lionel Stroud.

A circular letter enclosing the agenda of the Royal Sanitary Institute Congress in York on July 29th to August 3rd inclusive, and inviting delegates to attend.

A letter inviting the Society to be represented at the Milk and Meat Hygiene Congress, to be held in Paris in October next.

It was agreed to place the communications upon the agenda of a future meeting for discussion.

SPECIMENS.

Mr. EAGLESHAM exhibited a fracture involving the lower series of bones of the off hock, the cuboid, cuneiform magnum and medium in an aged mare, the result of running away and falling over a bank into a roadway. After getting up it walked for about thirty yards, and falling again rose with some difficulty, when it showed great lameness and all the symptoms of fracture; it had to be destroyed. He pointed out that there were two cuneiform parvum bones in the hock, each with separate articular surfaces. The parvum bone is generally found as a single one.

He also exhibited a specimen of a mixed calculus from an aged mare that had been subject to slight attacks of colic about twice a week for the last twelve months. The calculus escaped into the floating colon and caused perforation of the bowel, from which the mare died.

The PRESIDENT showed a case of ringbone, pyramidal, and navicular disease in a horse which had been working up to the time it was stopped by the police. The animal being unnerved the case was dismissed on the undertaking being offered that the owner would have the animal destroyed at once. The disease was very extensive indeed, and if there had been any nerve supply to the foot the President thought it would have been very painful.

He exhibited also a portion of calcareous material which had been taken from the leg of a mare. There was no evidence of the mare having been kicked, or being a kicker. She had what seemed to be an attack of lymphangitis, which became localised under the thigh. For about three weeks little progress was made, and as there was evidence of suppuration he opened, obtaining pus. The place, however, did not diminish in size, and that day he had explored the wound and obtained what seemed to be calcareous material. Whether it was a plugged lymphatic (as it followed its course) that had become calcareous he did not know.

Mr. PERRYMAN thought the first case shown by the President involved ossification of the tendon.

Prof. WOOLDRIDGE asked whether it was considered to be mechanical lameness.

The PRESIDENT thought it was absolutely mechanical lameness, as the animal did not take the slightest notice of whether he was standing upon it or not. When the animal moved the toe cocked up, but he could put it perfectly flat and stand perfectly well on it, and in the stable he stood quite naturally.

Prof. WOOLDRIDGE said it seemed to him it would not be a bad thing to have an expression of opinion from the Society with regard to the possibility of cases of mechanical lameness. In police courts veterinary surgeons often found themselves opposed to people who maintained it was impossible to have mechanical lameness, and that the lameness must be always associated with pain.

The PRESIDENT said the Magistrate, as soon as he saw the horse, dismissed the case. He (the President) had kept the animal alive overnight to be produced again the next day, because there was a little dispute as to

whether the horse was unnerved or not, but as could be seen from the specimen there must have been very little or no nerve supply, or there would have been evidence of great pain.

Prof. WOOLDRIDGE said he should not like to say there was no pain in that particular case.

The PRESIDENT said he happened to know that the horse was unnerved because he examined him four years before, soon after the operation had been done.

Capt. JOLLIFFE asked whether there was any difficulty in diagnosing the fracture in the case shown by Mr. Eaglesham.

Mr. EAGLESHAM said the animal stood on three legs, and crepitus could be obtained.

PROFESSIONAL EVIDENCE IN POLICE COURTS.

Mr. McINTOSH referred to new Animals Protection Act which had just come into operation, and said he was sure every veterinary surgeon welcomed any measures which were likely to prevent cruelty and promote the comfort of our domestic animals; but he objected very strongly to the methods adopted in bringing about prosecutions. He thought it would be well to form some organisation and make representation to the proper quarter to see that the veterinary profession received better treatment at the hands of magistrates. At the present time it was a disgrace to the Bench. Personally he was always ready to meet a man on level terms, but unfortunately that could not be done in the Police Court, and he strongly objected as a professional witness to the magistrate or his clerk trying to put words into his mouth. He was satisfied that if representations were made some alteration would be brought about.

Mr. WILLETT proposed that the subject should be placed upon the agenda for discussion at the next meeting, and moved: "To discuss the unfair treatment meted out to our profession when giving expert evidence at the Police Courts."

Mr. COLEMAN seconded the motion, which was carried.

Prof. WOOLDRIDGE read a paper on Botriomycosis.

The PRESIDENT said he could only remember having the ordinary cases of shoulder, elbow, and scrotal troubles; excepting one case on the shoulder of a three-year-old, beginning about the supraspinous process and going forward up the neck under the skin. On dissecting it right out he found it to be a long pipe. The wound was eight inches long. The case did very well. He had not had very much result from the internal administration of Pot. iod., but he had only given a dose of half a dram once a day, which was rather different from an ounce dose. With regard to putting the chain on the cord high up, he had had a case where he had not been able to get the chain past the enlargement, and had had to get up as far as he could reach; the case had done alright and there had been no recurrence. For shoulder tumours, the best thing to use was the knife when the inflammation had subsided. In a fortnight a very large tumour would disappear if the centre was reached and filled with Biniodide ointment. In three weeks a horse with a tumour about as big as a man's head would be able to get to work.

Prof. ALMOND thought the disease must be more common in town than in the country, because in his forty years experience only one case had come under his notice, and that was a case of the cord. He did not remember meeting with any shoulder tumours that caused any trouble; tumours of the shoulder he had seen he usually attributed to nips and injuries. He had used ligatures occasionally in his practice, and his method had been always to leave long ends extending outside the incision. Although that might be source of danger in conveying infection, he had never had any trouble. He thought that if the clams referred to as being lost had been

secured by some of ligaturing material they would certainly have been better under control.

The PRESIDENT said old practitioners used to plunge a hot pointed iron into the centre of a tumour, but he thought it was much quicker to use a knife, and it caused much less pain. By making a big gash the centre could be reached at once, and there often was not more than half a thimble full of pus. Elbows were much more difficult to heal.

Mr. SANDERSON asked Prof. Wooldridge if he had any statistics to show after which method of castration scirrhus cord most commonly occurred. A very experienced and instructive practitioner with whom he served his tutorship had performed castrations by clams, écraseur, and the actual cautery, and now resorts to the last method entirely. He always opens the scrotum with the knife, and after cauterising the end of the cord he enlarges the scrotal wound—asepticises the parts well, and then takes hold of the end of the scrotum and pulls it out as far as possible to assist the spermatic cord to proceed backwards into the canal. By using the actual cautery and afterwards trying to ensure the return of the cord into the canal, he contends that he has now fewer cases of scirrhus cord.

He had seen a case of botriomycosis in the udder in a five-year-old mare, whose foal had died six months previously. The udder began to swell and became very painful, and on being opened a sticky mucoid discharge came from it. It healed up apparently, but a month or two later started again, and on being opened emitted the same characteristic discharge. After this she was treated internally for a few days, and received an ounce of Liq. calcis iodinate twice a day in water, followed immediately by two drams of Pot. iodide in a little water, and she did well after. The owner asked him whether it would be safe to put her to the horse again, but he told him no. As a student, doing *locum*, he remembered a horse that showed very considerable constitutional disturbances. There was a large, painful swelling in front of the shoulder, and he thought it was going to be just an ordinary large abscess. The temperature was 103 and the pulse about 70. The part was fomented and a little blister applied. About four days afterwards he was told by the veterinary surgeon, who had returned and incised it, that it was botriomycosis. He made just a clear incision into its depths, and the case did alright after. In the last two or three cases that had come to his notice, especially shoulder cases, all he had done was to incise them clean to their depths, without dissecting anything out, and they had all done well.

Mr. MCINTOSH had some experience of scirrhus cord when in country practice and had found it much more likely to follow castration after the use of the écraseur than by other methods, and accordingly he abandoned the chain and used the caustic clam, dressing with Hydrarg. perchlor. After that he had very few cases of scirrhus cord supervening upon castration. The removal of these tumours from the scrotum was to him a matter of considerable trouble owing to the amount of hæmorrhage and the difficulty there was in dissecting them away from the walls of the scrotum, to which, as a rule, they are firmly adherent. Once this was done, then removal was comparatively simple.

In one particular case he could not get the chain sufficiently far up to get to the end of the thickened cord, but he took away all he could get at, plugged and dressed in the ordinary way, and the animal seemed to get all right. About twelve months afterwards this animal died of what appeared to be colic, and post-mortem revealed an enormous tumour in the abdomen just inside the inguinal canal.

With reference to shoulder tumours, their removal was a comparatively simple matter, and there was nothing very special in the way of after-treatment, further than

to see that the wound was kept healthy and that it was not allowed to close up too quickly.

Capt. JOLLIFFE mentioned that in India he had a case which he took to be botriomycosis of the udder. The mare had a large suppurating tumour of the udder which seemed to be increasing in size, and she was operated upon by the late Capt. Southey, A.V.C., he (Capt. Jolliffe) administering the anæsthetic. Both halves of the udder were involved, and a mass about half the size of a man's head was removed, partly by the knife and partly by the écraseur. The wound healed favourably, and as far as he could remember there was no recurrence. The case was examined microscopically, but neither of them being bacteriological experts the examination was not conclusive. The pus was gritty. There were quantities of cocci of several descriptions, and they could not be absolutely certain about the disease. With reference to the administration of chloroform and the possibility of more hæmorrhage under such conditions, he should like to know whether it had been found in human surgery that there was more hæmorrhage in a patient under an anæsthetic. He was inclined to believe it was largely a matter of imagination amongst veterinary surgeons. If more hæmorrhage accrued from the use of an anæsthetic in animals it would surely apply equally in connection with human surgery. He had inquired of surgeons, and as far as he could make out no such idea has ever existed, except in veterinary surgery.

Mr. PERRYMAN said there were many cases seen in London, and he was particularly pleased to hear Prof. Wooldridge say with reference to shoeball, fistulous withers, and tumours of the shoulder, but they are not all due to botriomycosis. Personally he thought that a large number of big tumours of the shoulders were not due to botriomycosis but to direct injury. Shoulder infection was generally very clearly shown by little pustules all round the skin, and the pus coming from little nodules and that was a different sort of thing from big tumours which came up within twenty-four hours. He had been particularly interested in the iodine treatment. Some years ago an assistant of his who had just come from college, treated some of the nodules on the shoulder with iodine injections, but the case hung on for five or six weeks. The knife was then used and it was well in a fortnight. Sections of the particular tumour were made afterwards, and it was found that wherever iodine had been injected there were necrotic patches, the tissues had become necrosed. Since then he had never used an injection of iodine for such cases. He thought it would be worth while on a small scale trying the grooved director to see if a little of the stuff could be got inside. In the previous week he had seen a horse which had a huge thickening behind the knee, with dozens of little nodules, the skin being thickening about three or four inches, and he thought that was a case of botriomycosis. There were similar thickenings in the region of the hock and one on the outside of the off hind fetlock. In his opinion that would be a good case for experimental treatment, although it would be beyond iodine injections as there were about a hundred or two hundred nodules. He would like to know if Professor Wooldridge could suggest some form of treatment in such a case.

Mr. MACDONALD said he had had a rather unusual case of botriomycosis a few years ago in a very old horse. The horse was brought to him simply with the history of being off its feed and losing condition, and the teeth were rasped and tonics given. There were no signs of improvement and in a day or two the animal developed cording of the lymphatics on the neck. As glanders was very prevalent in London, he had the horse tested with mallein, but there was no response. A day or two later the animal developed very marked pulmonary symptoms, and died in about forty-eight

hours after developing temperature and blowing. On post-mortem the lungs were found to be practically filled with botriomycotic nodules from the size of a golf ball to the size of a pea. Evidently the condition was of old standing. Whether the disease was secondary from a previous tumour he did not know, but there was no history of a botriomycotic tumour elsewhere, and none could be found on post-mortem. He did not know whether it was possible for primary botriomycosis to affect the lung. The case was seen by a County Council inspector, who sent portions of the lung to the College at Camden Town, and he believed Sir John McFadyen said it was a case of botriomycosis.

Prof. ALMOND said he had been reminded of a case he had under observation in a cart horse in which there was what might be called a cold tumour in the forearm. It had never caused any pain, and the animal had not been lame and was still at work daily. The forearm was about three times its natural size. The swelling was diffused, and he should like to know whether it was possible it was due to botriomycosis.

Prof. WOOLDRIDGE, in reply, thought the cases of tumours of the shoulder which the President was able to get to work again within three weeks were probably not botriomycosis at all. In cases which were botriomycosis the President appeared to be particularly hopeful. He himself should never like to promise a client to have an animal ready for work in three weeks without surgical interference, with any idea of being able to perform what he promised.

The PRESIDENT said the case that he alluded to were hard fibrous tumours with openings from five to six inches deep.

Prof. WOOLDRIDGE said he could not recall a case where he had to resort to that line of treatment with anything like the same good results. He had suggested in the paper that it was not the right thing to cut all shoulder tumours out, and that a good many cases would respond to local treatment without the necessity of making a wound into which one could insert two fists. He did not like to operate until he knew it was a well established case of botriomycosis, and unfortunately that was the most frequent condition in which he got the cases. In the majority of cases where the disease was obviously established the knife was the only thing, but cases which were hot and painful might have the same treatment as an ordinary abscess, because many cases were only abscesses and not botriomycosis. With regard to Mr. Almond's remarks as to leaving long ends to ligatures, he never did anything else. In the particular case he had referred to in the paper there were long ends several inches below the scrotal wound, but that was not the trouble; the trouble was the fact that the ligature was transfixed, and no amount of tension on the end of the ligature would draw it through. It was the transfixation he wished to warn people against. With regard to the enlarged forearm, he should say it was most probably not botriomycosis. The case appeared to have been in existence for at least two years without any evidence of fistulæ or deep abscesses, or discharge of any kind, and there was no surface wound. With regard to Mr. Saunders' question as to the method of castration in which scirrhus cord was most common, it was one he could not answer; every method had been said to be the chief cause. Mr. Saunders had referred to the fact that by the use of the hot iron he had had less scirrhus cord than before; other practitioners said that the hot iron was the chief cause of scirrhus cord, not so much the iron itself as the fact that scales from the iron might be left on the end of the cord and act as a centre of irritation. It really did not matter what method was adopted, because without the entry of the specific organism there would be no botriomycosis, and that organism could get in no matter what method was adopted. It was an accidental com-

plication. With regard to the raising of the scrotum and allowing the cord to fall back into the canal, he invariably raised the scrotum, not so much with the view of allowing the cord to fall back as to pour into it a certain amount of disinfecting fluid. He did not think the letting the cord fall back into the canal had any effect at all in the prevention of scirrhus cord. If it was an essential condition to avoid scirrhus cord, how was it it was not found where the operation of castration was practised standing? If care was taken to dissect very carefully in any gelding it would be found there had been adhesions between the end of the spermatic cord and the scrotal wall, so that the jerking back of the cord into the canal he did not think could have any particular effect. With regard to cutting the scrotum with a knife before using the hot iron, there were differences of opinion; many people, especially the older practitioners, prefer to cut the scrotum with a hot iron and not with a knife, not using the knife at all in the whole operation. In that way they said the wound would not heal before the end of the cord had healed, and therefore there was less likelihood of getting scrotal infection and scirrhus cord. Personally he thought there was something in that. A scrotum cut with a knife healed much more quickly than when cut with a hot iron. With regard to constitutional disturbance, he had not laid much stress upon it in connection with botriomycosis because he did not think it deserved it. The constitutional disturbance in Mr. Saunders' case was entirely due to the local abscess, and was of a passing nature. The case which lasted two or three months, mentioned by Mr. Saunders, was an illustration of the necessity for using the knife from the beginning. Mr. McIntosh's case of recurring tumour of the cord coincided with cases he himself had had of recurrence after a portion only of the tumour had been removed. In Mr. McIntosh's case it was possible the tumour at the inguinal ring might have been in existence at the time the operation was performed, but it was also possible that it might have extended owing to the fact that the original tumour was not cut out *in toto*. If it was at all possible to get to the limits it was inadvisable to be satisfied with cutting off a portion of the tumour in the hope that the rest would disappear. In some cases it would, but in other cases there would be nothing but disappointment. He felt very doubtful whether Capt. Jolliffe's case was one of botriomycosis, because gritty pus was never met with in such cases. As to chloroform, he thought it was an undeniable fact that the vessels were more dilated and there was more hæmorrhage, but it was not taken into account in the case of human subjects. In any extensive operation the patient would die from shock if he was not chloroformed. Hemostasis had attained such a pitch of excellence that the question was now not considered for a moment. It might be, too, that it was not so bad as some people would make out, and, personally, he did not dread hæmorrhage when operating for scirrhus cord under chloroform. He thought the idea was put forward more often as an excuse than a reason.

With regard to Mr. Perryman's remarks, there were undoubtedly a large number of shoulder abscesses which were not botriomycosis. Cases of chronic fibrous shoulder tumours with suppurating centres were almost invariably botriomycosis; but abscesses that were very painful and yielded to ordinary anti-phlogistic and puncture treatment and simple disinfection were not botriomycosis. It would be absolutely impossible to prove the cases in the early stage because the pus contained only cocci and no granules, which were the only characteristic things in connection with the organism. If the organisms were cultivated on artificial media and injected subcutaneously there would be only simple acute abscess formation, and if the disease was treated in the ordinary way there would be recovery. If it was neg-

lected, or the organisms entered more deeply, botriomycoma was formed with the granules. Mr. Perryman's experience of the use of iodine injection corresponded closely with his own. As to the treatment of multiple fibrous tumours about the body, the first hint he would give was to cut one out and have it examined microscopically, and he thought Mr. Perryman would find it was most likely a neoplasm and not a fibrous tumour. If it was a fibrous tumour fibrolysin might be given a trial, because it was being considered by some people as a specific for the reduction of fibrous tissue throughout the body. He had used it himself in a number of cases and had had recoveries in some cases and no change taking place in others, and whether the recoveries were due to it or not he was at present in doubt. With regard to Mr. MacDonald's case in which the lungs were affected, he did not think it was possible to get a case of primary botriomycosis of the lungs, and if the case was really botriomycosis there must have been some primary growth elsewhere. From the description of the case it appeared much more likely to be glanders, in spite of the fact that the animal did not react to mallein. At the meeting of the National Society in Carnarvon a case was shown which had been diagnosed some twelve months before as scrotal hernia, and was left alone for awhile. Then it began to discharge, and the diagnosis was changed to scirrhus cord, and the horse was sent to be operated upon as a demonstration at the meeting. Prof. Gofton operated, and he assisted him. It was a scirrhus cord to begin with, but as the dissection went on a piece of bowel was found, and it turned out to be a complicated case of scirrhus cord with hernia. The scirrhus cord was closely adherent to the bowel, and had to be carefully dissected away, and the ring was closed. The horse lived a fortnight afterwards and did not die of peritonitis, as was expected, but from purpura hæmorrhagica.

AMALGAMATION OF VETERINARY SOCIETIES.

A letter was read from Prof. Gofton with regard to the affiliation of the Society with the National Veterinary Association under the new rules.

The PRESIDENT explained that the Society had already approved of the scheme.

Prof. WOOLDRIDGE said he had proposed at the last meeting that the matter should be placed on the agenda in order that attention might be more clearly drawn to it, and that no Fellow of the Society should be able to say that he had not had an opportunity of expressing an opinion on the subject. He moved, "That the Society affiliate with the National Veterinary Association under the new rules."

Prof. ALMOND seconded the motion, which was carried unanimously.

On the proposition of Mr. Salusbury Price, seconded by Mr. McIntosh, the consideration of a letter from the Association of Veterinary Officers of Health was postponed.

A vote of thanks having been accorded to those gentlemen who had brought forward morbid specimens and to Prof. Wooldridge for his instructive and interesting paper, the meeting adjourned.

HUGH A. MACCORMACK, *Hon. Sec.*

VICTORIA VETERINARY BENEVOLENT FUND

The quarterly meeting of the Council was held at 10 Red Lion Square, on Thursday, January 11. There were present: Messrs. W. Freeman Barrett, T. G. Huntley, G. A. Banham, F. Hobday, F. W. Garnett, P. J. Simpson, S. Wharam, S. Stockman, S. H. Slocock, F. L. Gooch, H. Sumner, J. Macqueen, J. R. U. Dewar, and Wm. Shipley, *Hon. Sec.*

The minutes of the last meeting were read and confirmed.

The Secretary was requested to return their votes to the Treasurer of the London Orphan Asylum with a view to obtain support for one of the Fund's candidates on some future occasion.

Grants were made in the following cases. To Mrs. H. the sum of £10, to meet certain liabilities; to Mrs. F. J. B. the sum of 7/- per week; a similar sum to Mrs. N. J. B. Other cases were left over for further enquiries to be made. A temporary balance sheet was presented with the view of endeavouring to alter the term of the financial year from March 31st to December 31st.

It was decided to continue the relief to all old recipients, the Secretary to keep in touch with them, and to report when occasion requires.

The SECRETARY presented a short report on the distribution of the work and appealed to the members of Council and members of the profession to put some individual work into the Fund, in order to increase the number of annual subscribers, and also to have some members interested especially in cases of distress, to bring to the notice of poor widows the objects of the Fund. It was felt many cases of distress existed which did not come to the Council's notice. The list of annual subscribers must be considerably increased to meet the present expenditure, and to prepare for further fresh claims.

It was interesting to note that on the 31st March, 1911, we had only 115 annual subscribers, contributing £103 13s. Three Veterinary Medical Societies contribute £9 9s., making the annual income £113.

Whilst appreciating the kind grants from the various medical societies, it is desirable to obtain more individual interest, as some members of the profession feel that if their Society votes a sum their responsibility to the fund ceases.

The geographical distribution of the supporters of the fund is interesting. London and Middlesex furnishes twenty subscribers, Norfolk ten, Warwickshire and Yorkshire five each, Essex, Kent, and Surrey four each. Some few others with three, two, or one subscribers. There are no subscribers from fifteen counties; Scotland has only three, Ireland four. There are no subscribers in Wales. I hope some one in that district will take an interest in our fund. We have no recipients in the Principality, evidently it is a district where the operations of our fund are unknown. I shall be only too glad to give any information to any one interested.

Since the 31st March I am glad to say we have increased our list of new annual subscribers to 56.

I have also received over £40 in donations. One gentleman has offered to give £5 if I can induce ten others to do the same in order to ensure £1 a week for the following financial year.

I wish to mention that under Rule 4 all donations must be invested. I must ask the Council to consider this Rule, and also Rules 10, 28, and 17, at their next meeting.

DONATIONS AND SUBSCRIPTIONS OCTOBER TO DECEMBER 31ST, 1911.

	£	s.	d.
Dr. C. Stephenson	10	10	0
Victoria Veterinary Bowling Tournament, per Wilfred Waters	2	0	0
Proceeds of Bowling Tournament, per Wm. Shipley	8	12	6
Western Counties V.M.S.	5	5	0
E. Hudson, Barrow	10	6	
E. Wright, Gosford	10	6	
F. H. Ridler, London	10	6	
M. Bray, Docking	10	0	
Jas. Thompson, Bervie	10	6	
T. E. Auger, Wymondham	10	6	

Annual Subscriptions.

P. Abson, Doncaster	10	6
F. Aulton, Tutbury	10	6
W. F. Anderton, Skipton	10	6
E. W. Bovett, Bridgwater	10	6
F. Bazley, Devizes	10	6
B. W. Blomfield, Watton	10	6
T. E. Barcham, North Walsham	10	6
F. W. Barling, Bartestree Court	1	1 0
F. Bullock, 10 Red Lion Square	1	1 0
A. F. Castle, Gt. Yarmouth	1	1 0
J. A. W. Dollar, 156 New Bond Street	2	2 0
J. Dunstan, Liskeard	1	1 0
H. J. Dawes, West Bromwich	1	1 0
J. A. Fearnside, Ballachulish	1	1 0
Hy. Gooch, Board of Agriculture	10	6
J. Hammond, jun., Bale	10	6
D. S. Jack, King's Lynn	10	6
W. N. Jurgensen, Ipswich	10	6
J. R. Jackson, Board of Agriculture	1	1 0
H. V. Low, Norwich	10	6
T. Love, North Walsham	10	6
J. S. Lloyd, Sheffield	10	6
W. L. Little, Gt. Yarmouth	10	6
G. T. Matthews, Board of Agriculture	10	6
E. Measures, Norwich	10	6
J. R. H. Masheter, Gt. Massingham	10	6
E. Margaron, Swaffham	10	6
A. W. Mason, Leeds	10	6
H. A. MacCormack, London	10	6
F. D. McLaren, Beverley	10	6
E. M. Nicholl, A.V.C.	1	1 0
J. Peddie, Dundee	1	1 0
Capt. W. A. Pallin, A.V.C.	10	6
Scottish Metropolitan V.M.S.	1	1 0

H. P. Standley, Norwich	10	6
A. H. Santy, "	10	6
G. Sooby, Oakham	10	6
S. Smith, junr., Lowestoft	10	6
Wm. Shipley, senr., Gt. Yarmouth	1	1 0
D. M. Storrar, Abergavenny	10	6
Jas. Spicer, Eltham	2	2 0
R. C. Tayler, Colchester	10	6
F. B. O. Taylor, Weston, Norwich	10	6
W. Turtill, Wickham Market	10	6
T. F. Thurston, Fressingfield	10	6
General Thompson, Bedford	1	0 0
W. Waters, Blofield	10	6
Major Wilson, A.V.C.	11	0

New Subscriptions, 1912.

Dr. O. Charnock Bradley, Edinburgh	10	6
H. G. Bowes, Leeds	10	6
W. Graham Gillam, Minehead	10	6
G. H. Gibbings, Tavistock	1	1 0
W. Hunting, London	1	1 0
P. J. Howard, Ennis	1	1 0
P. A. McCorry, Stourbridge	10	6
Guy Sutton, Kensington	10	6
Prof. Gofton, Edinburgh	10	6

The fifth annual meeting of the Georgia State Veterinary Association was held at Atlanta, December 21 and 22 last, and the question is how did they do it? How did they get into two days the amount of literary work set forth in their program? To be sure their secretary is a "live wire," and that counts for a whole lot in any organization. He says to the members, "Your interest is at stake. Parasites alone expect to reap where they don't sow."—*A. V. Review.*

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Jan. 20	24		25				3	4	135	355	7	64	816
Corresponding week in	{ 1911 1910 1909	25		27			4	23			27	43	475
		31		37			7	18			34	18	115
		32		39			10	19			50	20	139
Total for 3 weeks, 1912	66		75				12	28	479	1392	50	167	1760
Corresponding period in	{ 1911 1910 1909	57		60			13	50			95	109	1238
		95		121			19	47			115	69	397
		78		108			23	59			104	87	579

* Counties affected, animals attacked: London 4.

Board of Agriculture and Fisheries, Jan. 23, 1912.

Outbreaks

IRELAND.		...	...	...	...	...	...	...	...	...	...	...	...
Week ended Jan. 20		...	...	...	...	...	...	...	...	...	22	2	35
Corresponding Week in	1911	...	1	1	...	...	...	...	5	37	37	2	49
	1910	...	...	...	...	...	...	...	1	35	...	...	58
	1909	...	1	1	...	...	...	...	2	17	1	...	8
Total for 3 weeks, 1911	...	1	1	...	...	...	...	...	4	62	7	...	135
Corresponding period in	1911	...	1	1	...	...	...	...	7	69	12	...	233
	1910	...	2	2	...	...	...	...	9	80	1	...	59
	1909	...	1	1	...	...	...	...	5	53	3	...	12

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 22, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Anthrax.

A fat bull belonging to Mr. Brinkworth, of Common Farm, Wroughton, was seized with anthrax while being driven to Swindon Christmas Fat Stock Show, and had to be killed. William Ledbury, the cowman, got some blood on his hands and has succumbed to the same terrible malady. He leaves a wife and eight children.

On Monday, January 1st, a heifer belonging to Mr. William Giles, Spittal Farm, Cricklade, was found dead at the farm. The police were informed, and later Mr. Broad, of Marlborough, who is acting as local Veterinary Inspector for the time being, examined the carcass and certified that the animal had died of anthrax. The carcass has been cremated.

Mr. Brookes, veterinary surgeon, stated that on Friday week a bullock died at Shrewley Barn, Warwick, and smears were sent to the Board of Agriculture, who certified a case of anthrax. The use of foreign food stuffs could not be traced, and there was no evidence that a case of the disease had ever occurred on the farm before. The bullock was fed on home-produced food stuffs.

A heifer was found dead on the farm of Port of Spittal, near Stranraer, occupied by Mr. James Downie. The cause of death was certified to be anthrax, and the carcass was accordingly cremated under the supervision of the veterinary inspector for the district.

A fat heifer fell ill and was killed at Swale Farm, near Thirsk. Mr. Pratt, the chief veterinary inspector of the North Riding, who made a microscopical examination of the blood, certified the case as anthrax.

Veterinary Examination of Clydesdales.

At a meeting of the Highland and Agricultural Society held on 10th inst.:

Mr. W. S. Ferguson moved as follows:—"That the rule adopted by the directors in April last, providing that the grant given by this Society will be available only for stallions which, for the year to which the grant applies, are registered in the Register of Certified Draught Stallions published by the Board of Agriculture, be rescinded." Mr. Ferguson said they were all strongly in favour of having sound horses, but he pointed out that if this rule was to stand there were local societies which would have to forego the grant given by the Highland and Agricultural Society. They were very well aware, as practical men, that some of the best of their aged stallions would not pass the test that was made. He knew of a case where they had two or three stallions hired, and they were giving the highest price for one that would not come through the test. He (Mr. Ferguson) asked them to rescind this resolution, and let them get their grant. A number of horses had been engaged for next year, and if their resolution was carried out they would have to be accompanied by a certificate which even the owners would decline to give. (Laughter).

Mr. W. T. Malcolm, in seconding, said it might be that they would get an occasional unsound stallion, but taking the breed as a whole, he thought they were wonderfully sound. He questioned if they would get a sounder animal anywhere than a Clydesdale stallion. That high degree of soundness had not been obtained by veterinary inspection, but by the hardheadedness and skill of the farmers of Scotland, who had made the breed what it was. He thought their proposed rules were unworkable, and that owners would be justified in declining until they knew who was to examine their horses. After the exhibition which they had recently at Dumfries he for one had no great faith in veterinary inspectors. He would have more faith in the skill and knowledge of their farmers and judges, who were constantly going

about shows, knew what was wanted, and how it was to be obtained. They had done very well by that class in the past, and he did not see why they should not be similarly trusted in the future.

Mr. John Marr moved that the Society adhere to its former resolution. He would like to ask Mr. Ferguson if he meant to encourage them to breed from unsound horses? [Mr. Ferguson: No]. What then did he mean? The step that the Society took in April was in the right direction. It was a reasonable thing to expect that the stallions they bred from should be sound horses. The Society would not be doing a good thing for the trade if they went back on the wise resolution which they passed in April. It was said that Clydesdale horseowners were averse to vetting. If they could not produce horses to stand the test let them want the premiums.

Capt. Gilmour, jr., of Montrave seconded. He had, he said, taken a good deal of interest in this matter, and as a member of the Advisory Committee to the Board of Agriculture and Fisheries, he urged Clydesdale owners to do their utmost to make the breed conform to the requirements of the Board.

Mr. J. M. Martin was inclined to congratulate Mr. Ferguson on his courage. On a previous occasion he could not find a seconder. In the interval he had been able to double his forces—(Laughter)—but he hoped he would not be able to treble them for the reasons which had been stated by Mr. Marr and Capt. Gilmour. Mr. Mr. Martin then referred to the success which had attended the vetting of Shire horses, the average of animals coming through the test being very high. It had been said that the stallion owners would not support them if this rule was adhered to, but he would remind the Board that they had the breeders to consider, who formed a much larger circle than the men who owned entire horses. When the societies came into line the stallion owners would do the same. (Hear, hear).

Mr. C. M. Cameron proposed that the rule should apply to stallions three years old and under.

Mr. Alexander Cross said that if Mr. Cameron included four-year-olds he would second his motion.

Mr. Cameron agreed to this.

In the course of further discussion, Mr. Marr pointed out that horses of two, three, and four years old had defects which sometimes did not become manifest at these ages.

On a vote being taken between Mr. Ferguson's motion and that of Mr. Marr, the latter was carried by 18 to 5.

Mr. C. M. Cameron's motion that all stallions of four years old and under should be registered in the register of certified draught horses published by the Board of Agriculture was then put against that of Mr. Marr, but the latter was again carried by 12 votes to 10.—*The Scottish Farmer*.

On the Value of University Training.

Sir Jonathan Hutchinson, in a long and interesting personal note on the late Dr. Hughlings Jackson (*Brit. Med. Journ.*, Dec. 9) says:

"As was natural, Jackson and I often discussed together the question as to whether we had regretted in later life our not having received any university training. Neither of us had been even to any high-class school, and both had, I believe, ended our educational curriculum at the age of 17, when we were apprenticed and became medical students. We thoroughly recognised the advantages offered at the larger Colleges: but, in attempting to strike a balance of loss and gain, Dr. Jackson was always unflinching in his avowal that he was glad he had not been sent to a university. He held that by exemption from over-teaching his mind had retained more of freedom and energy than might otherwise have been the case."

Rigs as Sires.*To the Editor of The Scottish Farmer.*

Sir,—I am glad that so experienced an authority as "Westtoon" has entered a *caveat* against the theories propounded on this question, in your issue of 23rd December. Your two veterinary correspondents are much more guarded in their replies to "Breeder" than you yourself in "Current Topics." I think "Reviresco" is mistaken as to what "Breeder" means by a rig. The term "rig" is very generally used—at least in Scotland—for a stallion or ram with only one testicle down, and no doubt that is what "Breeder" inquires about, and what Mr. Greenshields refers to. "Reviresco" does not dogmatise, merely stating that daughters of a rig would "likely" reproduce the paternal defect. Also, that there would be "a certain amount of risk" in using a rig. I can only say that this has not been my experience, either in sheep or horses. I have, like Mr. Greenshields, used sheep "hanging one," with quite satisfactory results. I do not recollect that I ever used a horse rig, but this was from no prejudice against them, as I have seen plenty of them and of normally-developed offspring, never hearing of any special tendency to produce the defect. Perhaps some owners or leaders of long-dead rigs could give more definite information, from their practical experience. Should this meet the eye of "Donald," who was so long stud groom at Urie, he will, no doubt, remember a rig, bred and owned by the late Colonel Findlay of Easterhill and Boturich, at Kenmuir, and used as a stallion. Did he leave more rigs than usual? I think he was Black Prince (56), which, I see, has apparently an alias in Prince Charlie (630). Of course, if "Breeder" speaks by the book, when stating, of the rig he mentions, that "a great many of last year's foals had nothing under them at all," no prudent breeder would use this horse, but in a somewhat prolonged breeding experience, on a fairly extensive scale, I have never seen an animal so bereft by nature.

You raise a very important question when you suggest the possible disqualification—on the ground of unsoundness—of an animal with only one testicle down. Certainly, if there is any danger of this, in the absence of a schedule, the sooner every society adopting veterinary examination of exhibits frames a schedule, the better. Some of your older readers may recall the incident, at the H. and A. S. show at Dumfries in 1870, when Rantin Robin (685) was protested by the owner of another competitor, on the ground of his being a rig, but the protest was not sustained, and the horse remained winner in the aged class. This was, I think, the only occasion on which the H. and A. S. adopted the system of universal vetting of prize-winners in the horse classes, and the resulting pandemonium was such that the society has never had the courage to revert to the practice. Had Rantin Robin been condemned, and breeders consequently refused to use him, we should have been deprived of the good class of daughters he left, while I am not aware that he bred rigs.

You write: "Unless an entire horse can beget his species, he is not entire." There is no obstacle to their reproducing freely, in the case of most rigs, and as "Reviresco" indicates, a rig with the only visible testicle removed may get stock. I do not know that your assertion would stand examination, however, any more than many others, confidently stated, and, at first sight, apparently incontrovertible. We all know of various horses, quite normally developed, which have left their country for their country's good, and crossed the Atlantic, because they had absolutely failed to get stock. Would any court of law or jury of experienced farmers support a plea that these were not entire horses? Possibly, under certain circumstances, a sale might be annulled

on the ground that the animal was useless for the purpose for which it was sold, but that is a different matter.

I should advise "Breeder" to prefer a fully developed stallion when of equal merit with a rig, but to prefer the latter where he is the better horse in other respects. I have heard it stated by old farmers and shepherds that rigs get more ewe than tup lambs, but I do not know that this could be substantiated.—Yours, etc.,

KNOWLEDGE SEEKER.

Veterinary Examinations.

At a meeting of the Southampton Town Council, held on Wednesday, 17th inst., the Tramways Committee reported having considered the tenders for two draught horses. Two it was recommended by a Sub-Committee should be purchased, and in regard to the third, offered by Mr. C. Sheppard for £58, it was reported that Mr. Sheppard had obtained a satisfactory report from an independent veterinary surgeon, and the Sub-Committee in the circumstances considered it advisable to engage the services of a veterinary surgeon residing outside the borough. This surgeon examined the horses purchased from Mr. T. Richards, Mr. W. Johnson, and the animal submitted by Mr. C. Sheppard. These were submitted later; also the certificates of Mr. G. F. Gould upon his examination of the horses in question and communication applying to be furnished with a copy of Mr. Tutt's certificates, as in case of any great variance between Mr. Tutt's and his own certificate he should like to apply to the Royal College of Veterinary Surgeons to appoint a Professor to examine the animals. It was resolved: (a) that the reports of the Sub-Committee be adopted and confirmed; (b) that the action of the Sub-Committee in engaging Mr. J. B. Tutt be confirmed; (c) that the brown gelding submitted by Mr. C. Sheppard be purchased at £58; (against)—Councillor Moulard; neutral—Councillor Bonner; (d) that a copy of Mr. Tutt's certificate be furnished Mr. Gould as requested.

Alderman Dunsford, the spokesman of the Committee, complained of difficulties in regard to the purchase of horses for the permanent way department. Several animals were tried, and upon examination one was returned. The owner was aggrieved, and sent the certificate of an independent veterinary. There being a dispute the Committee called in an independent veterinary Mr. Tutt, of Winchester, whose report largely agreed with that of the Council's officer.

Mr. G. F. Gould, the Council's veterinary surgeon, wrote enclosing another certificate dealing with the animal, and suggesting that the opinion of the President of the Royal College of Veterinary Surgeons be obtained, and offering to pay the fee if wrong.

Mr. Blakeway suggested that a Committee of inquiry should deal with the matter, as there seemed to be a desire to purchase the horse in spite of the veterinary surgeon's opinion. The matter was important, as they were buying many horses for the works department. He moved that the matter be considered by an independent Committee before any horses were purchased.

Alderman Dunsford said that two horses had already been purchased, the Committee being given power to act.

Mr. Brown asked for the reading of the veterinary reports, which was done by the Town Clerk.

Mr. Weston said that Mr. Gould had suggested that the opinion of the President of the Royal College of Veterinary Surgeons be obtained, and had offered to pay the fee if he was wrong. He moved that the offer be accepted.

The proposition was seconded, and it was agreed that the matter should remain in the hands of the Mayor and Town Clerk.—*The Hampshire Advertiser.*

ROYAL COLLEGE OF VETERINARY SURGEONS

NOMINATIONS FOR ELECTION TO COUNCIL, JUNE, 1912.

BURT, WALTER, Jr., Brighton, Sussex.
 CLARKSON, J., Garforth, nr. Leeds.
 DEWAR, J. R. U., Prof. Edinburgh.
 GARNETT, F. W., Dalegarth, Windermere.
 M'FADYEAN, Sir J., Camden Town, N.W.
 THOMSON, HENRY, Maj.-Gen. Bedford.
 TRIGGER, R.C., Newcastle-under-Lyme.

There will be Nine vacancies.

Personal.

RABAGLIATI.—On the 20th Jan., the wife of Duncan Silvestro Rabagliati, M.R.C.V.S., B.Sc., Fidia, Zitoum, Cairo, of a son.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Jan. 19.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. M. G. Byerley resigns his commission. Dated Jan. 20.

Private W. S. Lornie, from the 7th (Fife) Battalion Black Watch (R. Highlanders), to be Lieut. Dated Jan. 20.

OBITUARY.

HENRY DAWSON, M.R.C.V.S., Killiney, Co. Dublin.
 Graduated, Lond : May, 1855.

Maj. Dawson's death occurred on the 8th inst.

THOMAS WM. BUTLER, M.R.C.V.S., Hampton Manor, Evesham.
 Lond : April, 1863.

Mr. Butler died on January 20th, from arteriosclerosis. His age was 71 years.

JOSEPH WM. SANDERSON, M.R.C.V.S., Wetherby, Yorks.
 Lond : April, 1867.

Death occurred on January 22nd, from diabetic coma, at the age of 68 years.

CORRESPONDENCE.

WHAT IS THE NORMAL TEMPERATURE OF THE OX?

Sir,

I have been looking in vain for some time past for an article which I remember reading some few years ago in a veterinary periodical on the above subject, in which, if I remember correctly, the author proved to his own satisfaction that the normal temperature of the ox was above rather than below 102 F.

Having recently had the opportunity of taking the temperature of 122 apparently healthy calves living under natural conditions in this country, I thought it might possibly be of interest to record that their temperature worked out at a mean of 100.5 F. The highest and lowest temperatures recorded were 99 and 103 deg. respectively. The ages of these calves varied from 2 to 24 months, with an average of 8½ months, so that one would not have been surprised if the mean in these young animals had proved to be a little above what is usually accepted as the normal temperature in the ox, viz., 100—102 F.

I shall be much obliged if any of your readers can refer me to any article similar to that to which I allude.—I am, sir, yours faithfully,

F. WARE, L.C.V.D.

Madras, India.

CRUELTY PROSECUTION IN GLASGOW.

Sir,

May I refer in your columns to a case heard at the Justice of the Peace Court, Glasgow, on the 16th January? A contractor in the East End of the City was summoned at the instance of the R.S.P.C.A. for working a horse suffering from "disease and lameness in the off fore leg and foot." The charge was found proven: the Justices commenting on the case, remarked that it was of so trifling a character that they would content themselves with imposing the nominal penalty of 10/- fine.

I had performed the sidebone operation on both fore feet on the morning of 21st December, 1911, and the horse was stopped in the street that afternoon. Giving professional evidence on behalf of the R.S.P.C.A., two veterinary surgeons of Glasgow said the lameness was caused by one of the saw lines in the off fore foot being so deeply cut that the sensitive laminae were exposed and bleeding. I am not concerned at present to dispute with these gentlemen as to whether the line was too deep or not, so I will not impugn either their good faith or their eyesight (eyes that can see sensitive laminae through a line in the hoof 1-24th of an inch in width deserve to be spoken of with respect), but perhaps one or other of them will give us his views on this operation for our guidance in the future, and for the benefit of our clients.—Yours faithfully,

DONALD CAMPBELL, M.R.C.V.S.

"THE PROTECTION OF ANIMALS ACT, 1911."

Sir,

This Act, which came into force on Jan. 1st, 1912, was apparently drawn up, became law, and has been actually employed without any attempt to secure any greater amount of justice to the person indicted than existed under previous Acts, and I venture to suggest that each member of the veterinary profession who has any considerable amount of experience in "cruelty cases" can testify to glaring cases of miscarriage of justice brought about by mendacious audacity, erroneous assertions, and appalling ignorance of the parties prosecuting—ignorance, I mean, of course, in respect of the subject in dispute. And unless some measures are adopted to ensure a greater amount of fair play than have hitherto been employed, a gross iniquity will be inflicted on a section of the British public.

Why should a person who "beats, overloads, etc., etc." an animal, or permits it to be so treated, be more culpable than he or she who, without any proper knowledge or humane thought, fires, blisters, cuts, punches, extracts some part of the animal anatomy, or causes torture by the administration of drugs, medicines, and nostrums, often with a more or less benevolent intent but frequently, I fear, in a spirit of sheer cupidity and the grossest ignorance as to the potentiality of the means or substance used, and the direct inappreciation of the results that are likely to ensue?

Then what about the Court being able to deprive a person of his animal which is his own property? Surely there should be some uncostly means of appeal to an independent and competent expert before any Court is capable of resorting to such drastic measures, because not only are the officers of the R.S.P.C.A. biased persons, but gentlemen of the legal profession acting for them far too often forget or ignore their legitimate functions of "eliciting the truth in order that the adjudicator may arrive at a fair and just decision," and resort to the most contemptible and unscrupulous methods merely in order to win their case and procure remuneration either in the shape of money or distinction for themselves: their clients integrity or welfare being in other respects quite a secondary consideration.

How will the gentleman who owns a hunter or a race-horse which has been ridden (overridden) to a "standstill," or even perhaps to death, killed while being (practically) compelled to leap a fence or brook, like the liability of becoming a victim of an exceptionally courageous "Society's officer," and having to pay the full money penalty and his horse confiscated, because he is "likely to do it again"?

It appeared to me that the question as to whether a man is likely to repeat an offence of this description will be rather a knotty one to decide.

Lastly, how will professedly Christian people have the "heart" to see their fellow animal-creatures persecuted, ruined and convicted as criminals, when they themselves are, as happens in many cases, committing and permitting in one form or another acts equally reprehensible, callous, and worthy of punishment, even although perpetrated under the cloak of zeal in the cause of humanity.

Trusting the veterinary profession will take active interest in the matter,—Yours faithfully,

A. H. ARCHER, M.R.C.V.S.

THE COLLEGE FINANCES—SUGGESTIONS.

Sir,

I notice our College is going rapidly from bad to worse financially, and am of opinion that the profession would have responded well and a considerable amount would already have been in hand had half-guineas been asked for. When the Council are prepared to accept 10/6 I am prepared to pay yearly, and the guinea I shall pay when compelled, and I think hundreds more in the profession are of the same mind. They could try and see how it worked and go on compulsion lines as soon as they get the power.—Yours

SAM CHAMBERS.

Kirkheaton.

Sir,

No member of our profession can read the report of the last Council meeting without more or less concern. Two points seem perfectly clear. *First*, the R.C.V.S. is drifting each year towards bankruptcy. *Secondly*, the passage of the new Bill, the chief object of which is to avert that supposed catastrophe, seems most unlikely.

Now, sir, I know it is said that "Fools step in where Angels fear to tread," but for the moment I will risk being classed as one with the object of provoking a discussion upon some alternative to the course our Council has decided to pursue.

I believe our present financial deadlock is the psychological moment for suggesting a way out of our difficulties. Let me preface my suggestions by reminding you that the educational advancement of our country is being, and will continue to be, largely determined by the fostering and stimulating influence of the Universities of the Kingdom. Almost every branch of higher education, except our own, has profited by that wave of intellectualism which is passing over these islands. If we are to share in the advantages which must come to those who ally themselves with this movement towards higher education we must be willing to take risks and, if necessary, make sacrifices in the hope that our profession, and ultimately the community, may reap the benefit. I suggest, therefore, that we:

1. Abolish the one portal system.
2. That each College or School become affiliated to the local University, and each University with an affiliated Veterinary College have the right to grant diplomas to practise.
3. That the expenses connected with the examination of students be defrayed by the University granting the diploma.
4. That the R.C.V.S. retain the right of granting the Fellowship Degree.
5. That we utilise the newly organised N.V.A. for all matters concerning veterinary politics. This organisation will be in much closer touch with the members of the profession through the veterinary societies than the present Council.

I venture to think that not a single member of the profession would in any way suffer if we attempted to thus reconstitute our constitution. Our prestige as a profession would be raised. Our financial embarrassment would be terminated, and ultimately the community at large would benefit by the more commanding influence we should exert upon matters bearing upon public health.

I shall be interested to see whether either you or your readers consider any such scheme practicable.—Yours faithfully,

PROGRESSIVE.

ROARING.

Sir,

After reading the discussion on Prof. Craig's paper on "Roaring," read before the Veterinary Association of Ireland in Dublin, in which I was very much interested, and seeing in the same issue my old friend Mr. Wallis Hoare fishing for information on the same subject, it has occurred to me that I might with propriety relate a case that I think will interest him, and may not be without interest to other members of the profession, especially after the discussion of the paper above referred to.

Some time ago, how long I need not say, as I know that my friend is not cynical enough to apply the term "neophyte" to me, I was called upon to make careful examination of a stallion, which beginning to be used for stud purposes, as his owner was somewhat suspicious, from what he had heard from the groom, that his wind was not right. On arriving at the place my first care was to see that he was in good health, and not suffering from any temporary illness, or affection of the heart. After satisfying myself on this point, I got the groom to take him out to a field with nothing on except an ordinary head collar, with a plain snaffle bit, and began to lunge him in a circle with a good long lead. From the very first or second round he began to whistle, slightly but quite distinctly, and though the sound was somewhat intermittent in character, yet it was so persistent that I was afraid that I could only have very bad news for his owner. I then put him back to his box and did some other work to fill in time for half an hour or so, then got him out again and gave him another even more severe trial, and this time he only twice gave the slightest indication of any abnormal sound as the result of this test. After another interval of about half an hour, which I filled in as best I could, I had him out again, still further increased the speed and the severity of the test, in fact I galloped him, as the saying goes, "to a standstill" without being able to get him to give the very slightest whimper, or make the smallest noise of any kind, which was a very satisfactory finish to such a doubtful beginning. In this case no curb bit could be blamed, as it was not used, no rider with bad hands could have been the cause, for no one was up, and no bearing rein or other gagging harness of any kind was in use and therefore could not be the cause. What I attributed this rather unusual experience to was the fact that the animal was a raw colt, was fresh, frisky, and inclined to be playful, that he was inclined also to set his "head on his neck" and arch the latter too much naturally, and in this way to a certain extent gag himself when going too fast, and that the noise disappeared as soon as he relaxed himself and got into his proper stride. I am not prepared, however, to dogmatise on the subject, and will be pleased to have any other more satisfactory explanation. The horse continued to be a sound animal—though he continued to make slight noises from time to time during exercise, or during periods of excitement. Of course all this has no reference whatever to the pathological condition of the larynx, which was the question more immediately under consideration, but as the animal may still be alive, for aught I know to the contrary, it is obviously quite impossible for me to make any remarks on this aspect of the subject, and must perforce be content to confine anything I have to say thereanent to the physical aspect of this case.—Yours,

ANDW. SPREULL.

Veterinary Societies Addresses.

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester

Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,

Quay-street, Manchester

Hon. Sec: Mr. G. H. Lookes, M.R.C.V.S.

Grosvenor Street, Oxford-st., Manchester

VICTORIA VETERINARY BENEVOLENT FUND.

Pres. W. Freeman Barrett, Esq.

Fountain Court, Temple, E.C.

Hon. Sec. & Treas: Mr. W. Shipley, F.R.C.V.S.

South Town, Great Yarmouth.

Veterinary Societies—Addresses (continued)**ASSOCIATION OF VETERINARY OFFICERS OF HEALTH**

Pres: Mr. J. G. Reynard, M.R.C.V.S., Perth
Hon. Sec. & Treas: Mr. A. M. Trotter, M.R.C.V.S.,
 Moore Street, Abattoir, Glasgow

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton
Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,
 Dalegarth, Windermere
Meetings, Second Friday of Feb., June, and October

BRITISH COLUMBIA V.M.A.

Pres: Dr. Gibbons, M.R.C.V.S., Vancouver,
Hon. Sec: Dr. Hamilton, M.R.C.V.S., Victoria.
Sec., Treas., Registrar: Dr. T. Jagger, V.S., Vancouver.

CAPE OF GOOD HOPE V.M.S.

Pres: Mr. J. D. Borthwick, M.R.C.V.S., Cape Town
Hon. Sec. & Treas: Mr. R. W. Paine, F.R.C.V.S.

CENTRAL V.S.

Pres: Mr. R. J. Foreman, M.R.C.V.S., High Cross, Tottenham
Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S.,
 122 St. George's Avenue, Tufnell Park, N.
Meetings, First Thursday in each month, except August
 and September, 10 Red Lion Square, Holborn, at 7 p.m.

CENTRAL CANADA V.A.

Hon. Sec: Mr. A. F. James, Ottawa

CENTRAL V.A. OF IRELAND.

Pres: Mr. J. F. Herley, M.R.C.V.S., Middleton
Hon. Sec: Mr. E. C. Winter, F.R.C.V.S., Queen st., Limerick
Treas: Mr. P. J. Howard, M.R.C.V.S., Ennis

CONNAUGHT V.M.A.

Pres: Mr. D. Hamilton, M.R.C.V.S., Ballina
Hon. Sec. & Treas: Mr. A. J. Moffett, M.R.C.V.S., Ga'way

EASTERN COUNTIES V.M.A.

Pres: Mr. T. G. Healey, M.R.C.V.S., Woodbridge
Hon. Sec. & Treas: Mr. Sidney Smith, Jnr., M.R.C.V.S.,
 37 High Street, Lowestoft
Meetings, Second Tuesday, Feb., July and Sept.

GLASGOW V.M.S.

Pres: Principal McCall.
Hon. Sec: Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas.

VET. MED. ASSN. OF IRELAND.

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Continued from page III.

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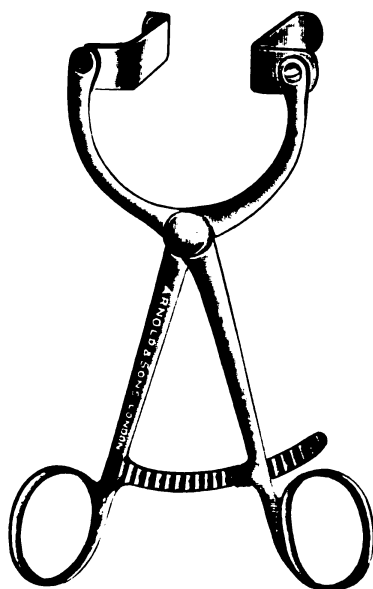
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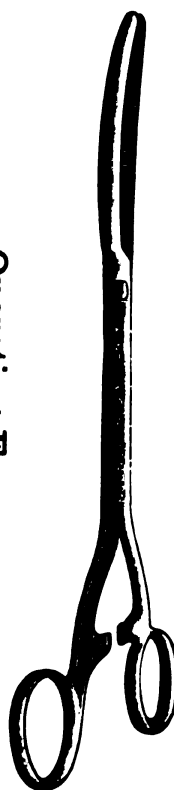


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These Advertisements will not be inserted unless prepaid, and if replies are to be received at this office an extra sixpence must be included.

Lincolnshire V.M.A.

THE Thirtieth Annual Meeting will be held at "The George" Hotel, Grantham, on Thursday, Feb. 15, chair to be taken by the President, Mr. W. W. Grasby, M.R.C.V.S., of Daventry, at 2-30 o'clock. Agenda—Routine business: Annual Report and Balance Sheet: Election of Officers: Members are invited to bring forward Clinical cases for discussion, also to exhibit Specimens. Dinner at 5 o'clock.

C. W. TOWNSEND, Hon. Sec. & Treasurer.

Scottish Metropolitan V.M.S.

THE Annual Meeting will be held in the Reading Room of the Royal (Dick) Veterinary College, on Saturday, Feb. 10th, 1912. The chair will be taken by the President, Jas. Peddie, Esq. M.R.C.V.S., at 3 p.m. Business, Routine: Presidential address: Paper by A. M. Trotter, Esq. M.R.C.V.S., on "Bovine Tuberculosis, its Intercommunicability and Danger to Man," discussion to be opened by Prof. Gofton. A. GOFTON, Hon. Sec.

Lancashire V.M.A.

THE Annual Dinner will take place at the Grand Hotel, Aytoun Street, Manchester, on Friday, Feb. 16th, at 6 p.m. G. H. LOCKE, Hon. Sec.

As Assistant

M.R.C.V.S. qualified 1910, desires assistantship in good mixed practice, experienced. Can furnish good references. Address, 1023 V.R., 20 Fulham Road, London, S.W.

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All communications respecting advertisements should be addressed to

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Assistant Wanted

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Assistant Wanted

FOR town practice, state age, references, and salary required. Address, 1021 V.R. 20 Fulham Road, London, S.W.

As Manager or Assistant

M.R.C.V.S. seeks situation; well up in cattle and horse practice, not afraid of work, age 25. Address, 1025 V.R., 20 Fulham Road, S.W.

To Vendors.

WANTED Veterinary Practices and Partnerships. Surgeons wishing to sell the whole or a share of their practices are invited to communicate with Messrs. Peacock & Hadley, Veterinary Transfer Agents, 19, Craven Street, Strand, W.C., who will be pleased to introduce likely purchasers. No charge whatever made unless a sale be effected.

As Assistant

M.R.C.V.S. requires situation as assistant. Excellent references, experience in town and country practice. Address, 4016 V.R., 20 Fulham Road, London, S.W.

As Assistant or Locum

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As Assistant or Locum

VETERINARY surgeon desires post in genuine country practice. Thoroughly experienced and reliable, not afraid of any work, 34, good horseman. Permanency; interview if possible; excellent references. Address, 1401 V.R., 20 Fulham Road, London, S.W.

To Veterinary Surgeons

M.R.C.V.S. single, aged 31, requires short assistantship in a good-class mixed practice with view to partnership or succession. Interview. Address, 2401 V.R. 20 Fulham Road, London, S.W.

Wanted

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As Assistant

UNQUALIFIED, town and country experience, good references as locum and assistant. Married, age 39. Relative coming into the practice reason for leaving present post. Address, 4017 V.R., 20 Fulham Rd., S.W.

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To Veterinary Surgeons

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Qualified Assistant

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See also page VII.

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A PRACTITIONER'S STUDY.

Last week we published an article upon ovine abomasitis due to the *Strongylus cervicornis*, by Mr. E. G. Haskell, which deserves careful reading. It is of interest viewed merely as a contribution to the study of the still imperfectly understood life-history of the parasite in question and of the disease it causes; for it will be seen that the author's observations differ in some respects from the classic account given by M'Fadyean, the original discoverer of the strongyle. Mr. Haskell, for instance, reports finding "numerous free forms which appeared to be embryos" in the stomach contents; M'Fadyean found "neither free embryos nor larger sexually immature worms," but only ova and adult forms. Again, in his account of the symptoms and post-mortem findings of the disease, Mr. Haskell does not mention one feature noted by M'Fadyean and others, viz., the ingestion of sand or earth.

As regards treatment, also, Mr. Haskell differs from some observers in attaching a distinct value to certain drugs—some men doubt the utility of any medication in parasitic abomasitis. And, further, apart from all details of the article, there is one general feature which gives it value—its internal evidence of independent study and observation, which did not stop at the diagnosis.

Diagnosis alone satisfies most men. A few go further, and seek to compare what they see with the results recorded by others, and any one doing so, while he cannot fail to improve his own conception of the subject he works upon, may succeed in advancing the knowledge of the profession. It is not easy for the practitioner to attempt work of this nature—work always bordering upon, and apt at any time to develop into, actual research—but the difficulty varies a great deal in accordance with the subject attempted.

Many subjects are quite impossible to the ordinary working practitioner. But with others, the difficulties are not insurmountable, and parasitology is certainly one of those most accessible to the man in practice. It demands no such costly elaboration of apparatus as is required for a study like bacteriology; for the bulk of parasitological work, indeed, an ordinary microscope and very simple accessory apparatus will amply suffice.

The technique, for the most part, presents no great difficulty; while in town and country alike—especially in the latter—there is always an abundance of material for study. Parasitology is one of the numerous subjects for practical study which literally lie ready to the hand of almost every clinician; and the wonder is that comparatively so few men have taken it up. A decade or two ago, our members generally felt little interest in it: the increasing interest during recent years is a healthy sign.

TWO CASES OF FRACTURE OF THE FIRST RIB.

I.—A five-year-old mare, belonging to the Army Service Corps, was admitted to hospital on 23rd November, 1911, lame on the off fore leg, the toe only touching the ground, and no weight was put on the leg. An examination of the limb revealed nothing abnormal, except pain on pressure in the region of the shoulder—pain which did not seem to be due to anything existing in the limb itself.



When made to move the mare could bring the limb forward, but when any weight was put on it she sank down until the sternum almost touched the ground, with the leg pushed out in front, remaining in that position for a few seconds until she recovered herself on the other leg. About a fortnight later she was taken out of slings for further examination and showed the same symptoms. A fracture of the first rib was thought to exist, and the mare was destroyed on 15th December.

Post-mortem.—Fracture of the first rib on off side, about two inches from the vertebrae.

History.—The injury occurred when the mare was being driven in double harness in an ambulance waggon. The waggon was being turned round in a narrow road, and while in process of turning the mare seemed to stumble, according to the driver, and immediately afterwards was on three legs. As she was unable to walk, a horse ambulance was sent for, and the animal brought to the Station Veterinary Hospital.

I enclose some photographs of this case, which Capt. W. H. Nicol, A.V.C., kindly took for me.



II.—The other case was a troop horse of 5th Dragoon Guards. A six year old mare which had been running out at grass for two months prior to 12th December, 1911, the date she was admitted to hospital. She arrived late at night in a horse ambulance, in which she had got down *en route*, and was lying on the injured side—near side. She had to be carried from the ambulance into a loose-box, where she was laid on her off side, and made as comfortable as possible. The following morning it was thought best to destroy the mare as she was in great pain.

Post-mortem.—About two inches of lower end of first rib, on near side, showed signs of a chronic osteitis. The portion of the rib which articulates with the sternum was involved in the osteitis, two-thirds of the articular cartilage being absent, and a roughened bony surface remaining. Just above the portion of the rib which showed old standing inflammatory changes, viz., in the apparently healthy part of the bone, the rib was transversely fractured.

History.—It is not known how the injury occurred while at grass. For months previous to going out to grass this mare is said to have shown signs of pain when being "girthed up" in the Troop stables, and on several occasions fell down in the stall when this was being done. She is also said to have fallen down on more than one occasion when first mounted, but showed no sign of being unable to carry the man's weight, when actually at work.

The inflammatory changes referred to in the sternal extremity of the rib were of old standing, but the fracture was recent.

W. A. McDougall, Maj. A.V.C.
Station Veterinary Hospital, Curragh.
24th January, 1912.

ABSTRACTS.

A CULTURAL METHOD OF HYPER-IMMUNISING ANIMALS FOR THE PRODUCTION OF ANTI-RINDERPEST SERUM.

The manufacture of rinderpest anti-serum has hitherto been very expensive on account of the great wastage of control animals for the production of virulent blood for use as the hyper-immunising agent. Many attempts have been made to increase this material without increasing the expenditure of animals, one of which, viz., the use of "peritoneal washings," was recently mentioned in these columns in a note upon a paper by Major F. S. H. Baldrey. This method has led the same investigator to a further series of experiments, which he now describes in detail (*Journal of Tropical Veterinary Science*, Vol. VI., Part III.), and which have resulted in the discovery of a new method. Major Baldrey's conclusions are as follows:—

1. Anti-rinderpest serum can be prepared by the inoculation of virulent blood diluted with broth.
2. It appears possible that an active toxin is produced and excreted into the broth by the rinderpest organisms contained in the virulent blood, and by this means the results recorded are obtained.
3. This material or probable toxin is rapidly excreted, and so active that it appears to quickly inhibit any further growth of the rinderpest organism, destroying its virulence, and finally killing it.
4. The substance so obtained is very much more active than that obtained in virulent blood, so much so that it cannot be given subcutaneously with safety on account of the extreme inflammatory condition it sets up.
5. To use it as a hyper-immunising agent, doses are better given intravenously and gradually increased so that the "salting" is spread over a period of some two months or more.
6. The immune serum so obtained is powerful, but 15-20 per cent. weaker than that made by massive injections of virulent blood.
7. The method is an eminently practical one, and shows a great financial saving.

Regarding the last point, it may be added that,

should the method stand the test of extended use in the field, the financial saving it will effect will be enormous. It is estimated that, instead of the Muktesar Laboratory using some 200 to 250 control animals per month, 15 or 16 will suffice. This will represent a direct financial saving of 1,600 to 1,700 rupees per month, besides greatly increasing the available accommodation.

PHARYNGEAL PAPILLOMATA IN A DOG.

Tumours of the pharynx are rare in the small domestic animals. In cattle, numerous authors have recorded cases of tumours properly so-called, as papillomata, sarcomata, carcinomata, lipomata, and cysts, and also of infectious new growths such as those of actinomycosis and tuberculosis. But in the dog only a single case, reported in Cadéac's *Encyclopædia*, exists in veterinary literature. Hebrant and Antoine, of the Belgian Veterinary School, now record the following on account of its exceptional rarity.

The subject was a large dog, ten years old, which for some time had shown loss of appetite. The owner said that the general condition had always been excellent, but seemed to have become bad during the last few days, while the dog showed great difficulty in swallowing food.

Careful examination of the patient revealed nothing very marked. The temperature was normal, the pulse and respirations were calm, the functions of the abdominal viscera appeared satisfactory, and all the vital functions were executed perfectly. Despite this the animal was emaciated. There was no enlargement of the heart, and the urine contained neither albumen nor cylinders, thus enabling nephritis, which is common amongst old dogs, to be eliminated from the diagnosis.

The authors suspected a simple angina, and minutely examined the pharyngeal region. External inspection and palpation revealed nothing, and the interior of the pharynx was then examined by applying a mouth-gag and drawing out the tongue. The pharyngeal mucous membrane was absolutely normal; but it was seen that two tumours, fairly well detached, papillomatous in aspect, one attaining the size of a nut and the other that of a large pea, were situated upon the right lateral wall of the passage.

The authors immediately attempted to remove these growths by means of forceps and curved scissors, but found it impossible to reach them. They therefore postponed the operation till the next day, and in the meantime procured the instrument known in human surgery as the *amygdolotome*. This consists of two annular knives gliding one upon the other with a small fork gliding above them, the latter piercing the tumour to be removed and assisting to adjust it in position for the knives to divide it at its base.

By means of this instrument the mouth being kept open and the tongue well drawn out, the two tumours were removed in an instant. A rather abundant hæmorrhage appeared at this moment, and at the same time the animal fell into syncope. Artificial respiration, inhalations of ether, and tam-

ponnage with chloroform water soon rectified these accidents. After treatment consisted in painting the operative wounds with diluted tincture of iodine, the animal being kept meanwhile upon a milk diet. Four days after the operation, as all was going well, the dog was taken home again by his owner. —(*Annales de Méd. Vét.*)

[The authors do not definitely say that a microscopic examination of these tumours was made. They head their article as one on "Pharyngeal papillomata in a dog," and as the case was a very rare one, and occurred in a veterinary school, it is hardly likely that the diagnosis was not verified by the microscope.—*Transl.*]

SUPPURATIVE ORCHITIS AND EPIDIDYMITIS IN A HORSE.

Lecomte records (*Revue Vétérinaire*) a case of a horse which presented a voluminous engorgement of the scrotal region. When first seen, this swelling was merely œdematous, without heat or appreciable pain. An astringent treatment was prescribed.

Two days later, the symptoms were considerably aggravated. The animal was in an intense fever; and the œdema had become localised to the left testicular region, which was warm and very painful. Movement was difficult, and the limbs were maintained in abduction. Fœtid pus was escaping from the urinary meatus.

Not finding the fluctuation which is usually met in vaginalitis, the author diagnosed suppurative orchitis, and decided to remove the diseased testicle.

The operation was performed by torsion, after previously washing out the vas deferens and the urethra, which caused the evacuation of pus by the urinary meatus. Recovery was complete in eleven days.

A section of the testicle showed the existence of three abscesses, of the size of a nut, in communication with the seminiferous ducts. This indicated an ascending infection.—(*Annales de Méd. Vét.*)

INJURY TO RUMEN BY A FRACTURED RIB.

Enrico Sampoli records (*Il Nuovo Ercolani*) a case of an ox which fell upon declivitous ground with the head under the body, in such a way that the point of the left horn pressed into the left costal region without, however, leaving a visible external wound. The ox was extricated from this position with much difficulty, and immediately brought into a stall, where he showed no disturbance in general health.

Soon afterwards, however, an extensive emphysema of the skin developed on the left side of the body. At the highest point of this, about the eleventh intercostal space, a cone-shaped depression existed, running obliquely backwards to the twelfth rib. Here the skin was hairless and thinned.

In a few days the emphysema subsided; but at the region mentioned above a firm swelling remained, which grew progressively as time went on, and increased in size till it reached the dimensions of a man's head. At its upper edge, at the place

upon which the horn must have borne, the skin and underlying tissues now became necrotic; so that Sampoli could easily force in his finger and reach a spacious cavity filled with alimentary material and shreds of tissue. In the depth of this the upper part of the twelfth rib, which had been completely fractured in its middle third, could be felt detached from all the muscles. The lower portion of the bone had been displaced inwardly.

Soon afterwards the ox was slaughtered, and post-mortem examination showed that the lower portion of the rib had made a rent of about 2½ inches long in the rumen. An adhesive circumscribed peritonitis had afterwards, by the formation of a thick ring of connective tissue, led to union of the edges of this rent with the peritoneum, and so prevented the entrance of masses of food into the peritoneal cavity. This explained the comparatively slight effect of the injury upon the general condition of the animal, which ate normally and ruminated regularly until slaughtered.—*Berliner Tier. Woch.*

POLYMYOSITIS METASTATICA.

Emil Balla, of Budapest, records (*Allatorvosi Lapok*) the case of a lean St. Bernard dog which, after copulation, showed symptoms of paralysis. He could still, with assistance, raise himself upon his hind limbs, but he straddled the fore limbs and fell after a few steps. Both forearms showed spindle-shaped swellings, were very painful, and in some places were of a stony hardness.

Three days later, a similar painful swelling appeared in the adductors of the left hind limb, and then another in the posterior pelvic muscles. The dog died on the fourth day of observation.

Post-mortem, purulent inflammation of the inter-muscular connective tissue of the muscles of the fore-quarters, the lumbar and pelvic muscles, and the vasti muscles, was found. An abscess was also present in the prostrate, and small metastatic centres in the kidneys.

From the condition of the lesions Balla considers that the primary abscess was that situated in the prostate, and that the others were metastases from it. Similar cases are not rare in the human subject, but have not hitherto been described in animals.—*Berliner Tier. Woch.*

FIVE CASES OF TRICUSPID STENOSIS IN THE OX.

Jöhnk, of Berne, records (*Münch. Tierärztliche Wochenschrift*) five cases of cows affected with tricuspid stenosis. In each case the diagnosis was based upon venous obstruction, and an especially remarkable feature of the series was that icterus of the conjunctiva was a constant symptom in all. One case recovered, the others were slaughtered. Each of the four cases slaughtered, upon post-mortem examination, showed fibrinous new growths, which had become partially organised, upon the tricuspid valves. A further noteworthy feature of the post-mortem examinations was that each case showed lesions of the liver—nutmeg liver, distomatosis, or chronic interstitial inflamma-

tion. From this fact, and the constant presence of icterus observed during life, Jöhnk concludes that the endocarditis was the sequel of the hepatic affection.—*Berliner Tier. Woch.*

W. R. C.

THE UTILIZATION OF THE ZEBRA AND ITS HYBRIDS.

[A short report by H. WATKINS-PITCHFORD, Government Bacteriologist (Natal).]

This subject has frequently been considered in the past, especially in Natal, but hitherto no adequate or systematic endeavour has been made, under proper conditions, to develop the project or to prove its great potentialities.

The advisability of taking some steps to utilize the great equine asset that we possess in the zebra has frequently been urged upon the late Natal Government. The practically unlimited numbers of zebra available, their ready domestication under proper system, their immunity to disease, and the promise reasonably to be entertained of their hybrids exceeding greatly in value the parent stock, has seemed to render the question in the past one of much economic promise.

Some eight years ago the late Natal Government decided to undertake preliminary observations on the point, and an adequate sum was placed upon the draft estimates of the writer's department. Financial considerations, however, led to the reluctant withdrawal of the item at the last moment, since which time no official steps have been taken beyond one or two preliminary observations made by myself in Zululand, and much correspondence between the late Natal Colonial Secretary's Department and the Agricultural Department, magistrates, and those interested in the project.

The writer would now respectfully urge upon the consideration of the Government the undertaking of such adequate preliminary observations as will suffice to demonstrate the great use which can be made of the zebra and its hybrids as a transport animal, and one which will not only take the place of the mule but will promise to possess an immunity to indigenous diseases, rendering it available for service in all parts of the Union.

The writer is also confident this possibility can be shown without any great difficulty or expense, and that the outcome of such observations will be of far-reaching interest and profit to South Africa.

Objections to any system of zebra domestication are generally based upon the difficulty of securing a sufficient number of animals or the intractability of the zebra when caught. Both these objections may be lightly dismissed. Attempts to catch the zebra by twos or threes by lassoing or riding them down have nearly always proved unsatisfactory, as the Natal records show, while the attempts to drive into enclosures have been generally unsuccessful by reason of the small number of men engaged in driving, etc. Where, however, bomas or catching-kraals are properly constructed and ample native assistance is secured, no fear need be apprehended as to success in driving.

The intractable nature of the zebra has often been urged against its utility, but the objection does not bear close investigation. (It is, of course, to the Burchell's zebra not the mountain zebra that the present remarks are intended to apply). All the evidence available goes to prove the ease with which recently captured zebra have been rendered amenable generally within a few days of capture (providing this latter has been properly effected).

As regards their reliability to retain their domestication no difficulty exists. Young zebras in Natal have been outspanned and grazed upon the same veld upon which they ran wild shortly before, without any difficulty being experienced in straying, inspanning, etc. In a case reported by a Natal magistrate of a stampede of a troop of wild zebra, together with several recently tamed animals used for decoys, these latter bolted back to their stables while the wild troop went in another direction. Such instances could be multiplied were it necessary to prove that domestication is both easily and permanently effected.

Docility and steadiness in harness with high courage in moving dead weight are claimed for this animal by all possessing an experience of the properly-broken Burchell zebra. The magistracy of U'ombo, Zululand, is situated upon the top of a hill—described by the Public Works authorities of Natal as the steepest grade road in the Province. The magistrate at U'ombo wrote last year (in reply to some query of mine) - "They (the zebra span) came up here again the other day, eight of them, and the majority not nearly full grown, with 3000lb. on the wagon; then, again, they are so wonderfully amenable," etc. Pace and endurance on ordinary corn food—great hardihood, and total immunity to tsetse and horse-sickness are also among the good qualities of this undeveloped equine. The only thing requisite is size (the average Burchell zebra is about 14 hands), and on this point the writer is confident—given the care and selection in mating observed in horse-mule production—the outcome would as regards size be all that could be reasonably looked for.

The Burchell zebra crosses readily with other equines, a fact which renders possible the production of a hybrid of almost any desired stamp, and there is no reason why zebra mules produced by appropriate mating should not only rival in size but exceed in other qualities the best horse mules now imported into South Africa.

Difficulties of mating, sometimes experienced by breeders in the past, would not exist under the system of artificial insemination, while the rate of reproduction would be able to be profitably regulated by this means.

The ease with which the zebra breeds in captivity would—under adequate management—provide numbers of animals of approved type suitable for stud purposes, and it is anticipated that after one or two successful drives on an adequate scale the occasion for further captures would be infrequent—at least until the scheme developed large dimensions.

Preliminary observations would be directed to establishing the most successful lines of mating both with the horse and the ass—on both male and female side—and to determining exactly the degree of immunity possessed by such hybrids, and whether any lapse of natural immunity occurred in zebra removed from their natural habitat.

Such preliminary experiments—though of essential importance to the ultimate successful working of the scheme on scientific lines—could be carried out at a moderate cost.

The writer would suggest—in the event of the project securing the favourable notice of Government—that such preliminary work be undertaken in Natal, this Province—by reason of its climatic conditions—being well suited for the purpose. With slight alterations and unimportant additions of a temporary nature, the buildings and paddocks of the laboratory at Pietermaritzburg would be found well adapted to the purposes of this inquiry, and extensive ground could, it is believed, be secured by the courtesy of the Pietermaritzburg Corporation, should the necessity for any such extensions become at any time apparent as a temporary measure.

The above scheme has been put forward in skeleton and with the intent to draw attention to the existence

of a latent South African asset which is believed to be of great magnitude. The writer has already in another place sought to bring the scheme to the notice of the Defence authorities, particularly in connection with the establishment of a first line of transport capable of being employed in operations in districts dangerous for horse-sickness or deadly to ordinary equines from the existence of "fly belts."—*South African Agricultural Journal*.

A NEW VIEW OF THE BACTERIOLOGY OF LEPROSY.

By T. S. B. WILLIAMS, Capt. I.M.S.

[Extracts from a lecture delivered at the London School of Tropical Medicine].

The view which I wish to advance is that the lepra parasite is not an acid-fast bacillus belonging to the fission fungi, but that it is a very pleomorphic streptothrix, which, in addition to changes in form, exhibits marked changes in its staining reactions in regard to the quality known as "acid-fastness." This being the main point of my lecture, it will conduce to a clearer exposition of the subject if I may be allowed to refer very briefly to some of the principal features of the Streptotrichæ. I would especially refer those interested in this group of organisms to the Milroy Lectures of 1910 by Mr. Foulerton of the Middlesex Hospital, which give a most interesting and clear account of this group of organisms, based on original researches extending over many years. The following description of the Streptotrichæ is taken from those lectures:

The typical life-history of a streptothrix may be said to consist of:

1. Branching mycelium.
2. Isolated rod segments.
3. Spherical spores.

Development may be studied in one of the quickly growing saprophytic species. One starts with the spore; from this two or three threads sprout and elongate, so that at an early stage of development one has a typical ray fungus consisting of three mycelial threads, usually of unequal length, and radiating out from the position occupied by the central spore. From these primary threads lateral branches in turn sprout out, and soon there is developed a densely tangled mass of mycelium representing the fully developed stage of the organism.

The next stage is transverse segmentation. The branching mycelium, which hitherto has been apparently homogeneous in structure throughout its length, now presents transverse segments produced by an obvious process of degeneration extending across the mycelium.

Following this is a stage of fragmentation. The degenerated portions of mycelium disappear, and a conglomeration of separate rod segments represents the original system of branching mycelium. Generally speaking, these rods are morphologically identical with bacilli, except that here and there a rod with the remains of a lateral branch attached to it may be seen.

With, or soon after, the occurrence of segmentation a special kind of spore formation may be observed. In a typical instance special spore-bearing organs are developed: fine aerial hyphæ, which, erecting themselves from the growth of mycelium, often cause a powdery appearance on the surface. Spores are produced in these aerial hyphæ. It seems probable, also, that under certain conditions these spores may be produced along the length of the mycelium, as well as in the special hyphæ. From these spores fresh filaments grow out.

The bacteria or fission fungi are defined as unicellular organisms, which reproduce themselves by a process of

transverse fission or spore formation. In the one case the parent cell produces two new cells by clean transverse fission; in the other case a single endogenous spore is produced, so that a single cell succeeds a single cell.

□ In the hyphomycetes, or mould fungi, we have a more complex kind of organism, in which sporulation is a function of specialised spore-bearing organs of various types, the simplest, perhaps, of which is represented by the aeral hyphae of the *Streptotrichae*.

The stage of full development of the streptothrix is represented by a system of branching homogeneous mycelium. . . . As to the nature of what have been described as the spherical spores, there can be no doubt, and it is probable that the rod segments also have to be considered as being in a sense spore bodies; that is to say, it is probable that these rod segments represent a more resistant form which is capable of producing a new mycelium directly, and by means of which, in case of disease, the infection commonly is transported from one part of the body of the host to another. The fully-developed mycelium obviously, because of its bulk, would not pass easily from one part to another, except by steady invasion along continuous tissues; and there are reasons for believing that, when living as a parasite, under many of the conditions applying in case of disease, a streptothrix does not readily undergo complete sporulation, with the development of spherical spores. But, under parasitic conditions segmentation and fragmentation of the mycelium occur freely; isolated rod segments will be carried from part to part readily enough, and by the examination of sections through recently established secondary foci of infection it has been found possible to obtain evidence microscopically of the early sprouting of branching mycelium directly from rod segments, and not from spherical spores.

The history of the *Streptotrichae* is further complicated by the fact that there is strong evidence that, under parasitic conditions of existence, the rod segments may be capable of reproducing themselves directly as rod segments, and thus simulating true bacilli.

It will be realized, then, how very complicated is the life-history of this group of organisms, and one may be led into many errors unless one keeps these facts constantly in mind.

I have been engaged on a study of this question for several years. Prior to 1908 I had accepted the ordinary teaching that leprosy was due to an acid-fast bacillus belonging to the fission fungi. I had been getting results which, although considered useless at the moment, were producing an effect on my mind, and about the end of 1908 I became imbued with strong impressions regarding the morphology of the lepra organism. From a survey of my own results, together with a consideration of the work of Rost and Deycke, I became of opinion that leprosy was most probably caused by some species of streptothrix, and that the acid-fast bacillary masses, which were so well known, were merely phases of such a streptothrix, and that, moreover, they represented a resting and resistant stage of the organism. Since the beginning of 1909 I have grown from lepers in Persia and India apparently different organisms, which, in my own opinion, and in that also of others who have seen my work, I have been able to connect up into one organism—namely, the *Streptothrix leproides*. I have grown the following phases of the organism:

- (a) A non-acid-fast streptothrix in the mycelial stage, and producing acid-fast rods.
- (b) A non-acid-fast diphtheroid bacillus, producing also acid-fast rods. This is really a streptothrix.
- (c) An acid-fast bacillus, which is but the broken down stage of a streptothrix, and
- (d) An acid-fast mycelium.

ANIMAL EXPERIMENTS.

My animal experiments have been made with the organism in its acid-fast bacillary form. In this form, when injected subcutaneously into guinea-pigs in large doses. I have produced lesions somewhat resembling leprosy, with large numbers of coccobacilli appearing in the connective tissue cells. Moreover, Major Rost, with his organism, has produced all the clinical features of tubercular leprosy in a monkey, and in the nodules acid-fast bacilli were found, situated as in leprosy. I made a few experiments with the organism in its non-acid-fast mycelial form, but in view of the results obtained by Kedrowsky, I see that I did not allow anything like sufficient time for these experiments. — *The British Medical Journal*.

A New Cell Proliferant: Its Clinical Application in the Treatment of Ulcers.

[Extract from a preliminary note by
Dr. CHARLES J. MACALISTER, M.D., F.R.C.P.]

My attention had been directed to the fact that the *Symphytum*, or common Comfrey, had been much recommended by the ancient writers in medicine as a vulnerary and as a dressing for sores and ulcers of various kinds. From the days of Saxon leechdom* (c. 1000) to the end of the seventeenth century there were few authors who did not refer to it, and it was sometimes spoken of as being the "chief vulnerary herbal." I can find no reference to Comfrey in any books on materia medica or therapeutics of relatively recent date; Pereira, for instance, does not refer to it, and it was never an official remedy so far as I can discover. To this day, however, it has a traditional reputation among country folk, both in England and in Ireland, as a domestic herbaceous "simple" for applying to sores, and I was much interested during the past summer, when visiting a farm at Tarvin in Cheshire, to find that its owner always keeps a bed of Comfrey growing in order that he may provide the villagers with it when occasion arises.

Through the kindness of Professor Harvey Gibson I was provided with a large quantity of the root, some of which was handed over to Dr. Titherley and Mr. Coppin, of the Chemical Department of the University of Liverpool, and while they were making a careful chemical analysis of it, which took a considerable time, I proceeded to dress the only ulcer which was then available to me with a strong infusion made from the powdered root. This case was an exceedingly unpromising one, because it was a "rodent" of about two years' duration, not a simple ulcer. After being dressed with the mucilaginous infusion for about a week the surface cleaned, and a distinct growth of epithelium could be seen taking place from some of the marginal points. Later on the upper margin flattened somewhat on its inner aspect, the undermining vanished, and after growing here and breaking down there for a time, the epithelium became stronger and closed in to a considerable extent.

By this time Dr. Titherley reported to me that he had obtained a definite, so far unidentified, crystalline body from the root, and he was able to give me sufficient to experiment with. Since it was very sparingly soluble in water, quite a large amount of solution was made, which was now used as a dressing for the ulcer instead of the infusion. With this application the skinning-over process in the course of a month was all but completed.

*Dr. Edward E. Nicholson (Neuilly) furnished references.

In his preliminary examination Dr. Titherley established the facts that the root contained:—1. Gums. 2. Sugars, including a reducing sugar. 3. Resins. 4. A protocatechuic derivative or derivatives. 5. A substance giving an intense yellow solution with sodium hydrate (not investigated further.) 6. A crystalline solid, very rich in nitrogen and melting at 226°C.

Since from clinical observations this latter body appeared to be the physiologically active constituent of the root, Mr. Coppin was asked to devote his attention to its investigation; but Dr. Titherley and he found that the root contained about 0.8 per cent. of it, and by estimating its carbon, hydrogen, and nitrogen contents he showed that it possessed the same empirical formula as allantoin, which it greatly resembled in its chemical properties.

ALLANTOIN.

Some allantoin was now prepared from uric acid, and the product from the root was proved conclusively to be an identical substance by chemical methods. For example, allantoinic acid and other derivatives were prepared both from the chemically made allantoin and from that obtained from the root; their melting points were the same, and so forth.

Regarding the chemical physiology of allantoin or the part which it plays in human metabolism very little is known, but some interesting facts have been recorded which may throw light upon its action as a cell proliferant and may point to its having a function to perform in the bodily chemistry, apart from any possibility of its being a product of purin metabolism, in which light it has generally been regarded. It is present both in animals and plants. It was first discovered in the former, and received its name from the fact that it was found in the fetal allantoinic fluid. Later on it was identified in the urine of pregnant women. Recently its presence has been demonstrated in very small amounts as a normal constituent of the urines of healthy people, but that it is not an end product of human metabolism, which means that it is probably not derived from the oxidation of uric acid to which it is closely allied, has been shown by a good many observers, as pointed out by Dr. Ackroyd in a paper published in the *Bio-Chemical Journal* for March, 1911. This is an important observation, and is based upon the works of Schittenhelm, Wiener, Minkowski, Poduschka, and Wieschowski, who have shown that when allantoin is given to man it can be recovered to a considerable extent in the urine, and the author himself concludes "that the whole quantity of allantoin excreted by man on a milk and vegetable diet may be derived directly from that contained in the food." It will be noted that I am speaking of the relation of allantoin to human metabolism only. In the dog, cat, and rabbit, on the other hand, it appears to be a normal end product of metabolism.

If these facts are reliable the allantoin in human urine is mainly derived from vegetable foods, as pointed out by Dr. Ackroyd, and in the healthy individual it appears to pass practically unchanged through the economy, the amount eliminated representing about the amount which had been ingested.

Our knowledge of the distribution of Allantoin in the vegetable Kingdom is not very extensive, but it is a very suggestive and interesting fact that such analyses as have been made indicate that it is generally found in parts which are related to growth either active or potential. For instance, in 1881-82 Schultz and J. Barberi found it in the buds of certain plants and in the bark of branches of trees, and Ackroyd refers to its identification in the embryos of wheat separated in the process of milling, and in beet juice by Richards on and Crampton (1886); he has himself demonstrated its presence in bread, French beans, and green peas, whereas it is

absent from bananas and rhubarb. Now this is a suggestive circumstance taken in conjunction with the fact that it is a characteristic component of the fetal allantoin secretion, and related therefore to an important structure connected with the fetal circulation, a structure along which the vessels pass which convey the fetal blood to and from its intimate relationship with the maternal blood.

Whenever we find any substances constantly in certain parts of plants or animals it is quite reasonable to suppose that they may be in some way related to and necessary for the particular tissues which have selected them, and although the allantoin in the human embryo might be regarded as a fetal waste product, I think we may feel justified in assuming that, in the economies of Nature, it has a function to perform, perhaps in relation to cell multiplication, especially as it is not at once eliminated through the maternal circulation. The same suggestion is raised by the fact that it is also present in milk, the food of the rapidly growing young organism, and in the parts of some plants in which active cell multiplication takes place.

[Notes are given of successful treatment of several cases by Dr. Macalister and other practitioners].

Dr. WM. BRAMWELL, M.A., M.D., B.CH., Liverpool, writing on the subject, says:—

"I have on more than one occasion cured old ulcers which have resisted other treatment, by the simple extract from the root applied on lint to saturation. After a few hours this dressing, in favourable cases, sets quite hard, and can only be removed by the lengthy application of water, which is often more tedious and painful than the average patient, who has been in the habit of applying some simple dressing, cares to endure. This hard setting acts, in some measure, like strapping, drawing the edges of the ulcer towards one another, but probably much more evenly and accurately than the most skilful strapping could effect. This looks as though the cure is wrought similarly to healing under the seal." —B. M. J.

Plucking Live Geese.

It is a vexed question as to whether or not the plucking of live geese constitutes an act of cruelty. Two Irish courts have recently had their say on the point, viz., the Limerick Petty Sessions Court and the King's Bench Division. At Limerick last September a Caherconlish man was summoned by the Society for the Prevention of Cruelty to Animals for alleged cruelty to nineteen geese by plucking them alive. The evidence given by the complainant was to the effect that defendant was a professional plucker, and made his living by plucking geese and selling the feathers, and that he paid the owner 4d. a "pluck" for the right to pluck nineteen geese which were then alive. All the feathers except the wing feathers were plucked, and this, in the complainant's opinion, caused the geese pain, and also left them unprotected against the weather.

For the defence it was contended that the plucking of geese was a common custom in the country, and that no unnecessary pain was inflicted. The magistrates, with one exception, dismissed the case on the merits, believing that the plucking was not cruelty; that it was necessary to prevent vermin, and also that it improved the condition of the birds.

An appeal to the King's Bench came on for hearing the other day, and resulted in the court deciding to make "no rule," on the ground that there was not sufficient evidence before them.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Jan. 27	26		26				1	5	143	363	13	62	780
Corresponding week in	1911		36				5	13			28	32	285
	1910	29		31			6	35			23	13	94
	1909	37		42			8	12			35	45	266
Total for 4 weeks, 1912	92		101				13	33	622	1755	63	229	2540
Corresponding period in	1911	85	96				18	63			123	141	1523
	1910		124	152			25	82			138	82	491
	1909		115	150			31	71			139	132	845

* Counties affected, animals attacked: Hertford 2, London 2, Middlesex 1.

Board of Agriculture and Fisheries, Jan. 30, 1912.

Outbreaks

IRELAND.	Week ended Jan. 27	...	...	...	...	...	...	...	4	24	4	11
Corresponding Week in	1911	...	...	...	...	...	...	...	1	27	5	48
	1910	...	...	...	...	...	...	...	3	20	1	24
	1909	...	...	...	...	...	...	...	4	19	...	...
Total for 4 weeks, 1911	...	...	...	...	...	...	...	...	8	86	11	146
Corresponding period in	1911	...	1	1	...	...	...	...	8	96	17	281
	1910	...	2	2	...	...	...	...	12	100	2	83
	1909	...	1	1	...	...	...	...	9	72	3	12

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 29, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Cruelty to a Horse at Llanfair.

A young agricultural labourer, named John Ellis Williams, employed at Garthgynan Farm, Llanfair, was charged with an act of horrible cruelty to a horse. The case came before Dr. J. Medwyn Hughes, and the Mayor (Mr. T. J. Roberts), and aroused considerable interest. The defendant was taken into custody under a warrant.

Inspector Francis Graham, of the N.S.P.C., prosecuted. In consequence of information received he visited Garthgynan Farm, where a statement was made to him by the tenant, Mrs. J. Morris. A dead horse lay in the stable—a bay gelding between three and four years of age, a valuable animal, in a good condition. It lay on its near side, and witness could see four punctured wounds on its body, which, in his opinion, could be caused by a manure gaff, such as the one now produced. Subsequently he saw the accused, and charged him with cruelly beating the horse with a manure hook. He replied "I did do so. I was vexed with the horse, and lost my temper." Witness asked him "had you any drink, or were you drunk," and he replied, "I had a glass or two, and I am sorry I illtreated the horse." A thick leather strap which the horse had worn on the back had been penetrated through, and there were smaller holes in the saddle, showing that considerable violence had been used.

Mr. J. H. Wynne, veterinary surgeon, Denbigh, said he examined the horse on the 16th inst., and found it in a distressed condition, and showing all the symptoms of septic poisoning. There was a considerable swelling on the near side from the centre of the back right on to the hind quarters. Over this swollen area there were a

number of punctured wounds—23 in all—some very deep, some less so, and others only just having gone through the skin. One of the wounds had been plugged, and on the removal of the plug, a quantity of gas escaped, followed by a frothy foetid discharge. He told Mr. D. Morris that the horse could not possibly live. Later, P.C. Henry Jones examined the horse. Witness did what he could for the animal and left. The horse died the same evening.

Replying to the Chairman, witness said the horse died from septic poisoning following the wounds, some of which were more than a finger deep. He had measured the distances between some of the wounds, and these corresponded exactly with the distance between the teeth of the manure gaff now produced.

Prisoner had nothing to say when questioned by the Bench.

The Clerk then read a letter from Mr. John Morris, stating that the defendant had been in his employ for three years, looking after the horses as head man. No trouble had been experienced with him up to this incident.

The Chairman said that the Bench considered the case a very serious one. They had given full weight to the employer's letter, and upon that had decided not to send the defendant to prison, otherwise they would have had no hesitation in doing so. It was a cruel, cowardly, and inhuman act—the act really of a madman. Defendant ought to be thoroughly ashamed of himself. He would be fined £3 and costs, and consider himself lucky at that.

The leniency of the verdict caused great surprise in court.—*North Wales Times.*

A Question of Warranty: Sidebone.

At the monthly sitting of the Dover County Court at the Town Hall, on Wednesday, Jan. 24th, before His Honour Judge Shortt, Frederick R. Marx, baker and confectioner, of Dover, v. Marsh, horse dealer, of Deal.

This was an action for damages for an alleged breach of a verbal warranty in regard to the sale of a horse, or alternatively for alleged fraudulent misrepresentation. Mr. Ernest Chitty appeared for the plaintiff, and Mr. Leslie Watts defended.

Plaintiff said he was a baker and confectioner in business at 140 Buckland Avenue. On Tuesday, Nov. 21, defendant came and offered to sell him a brown cob mare that he had brought with him. Witness rode behind the horse with the defendant to the top of Crabble Hill, and although he did not know much about horses it appeared to be a very decent animal. When they returned he told the defendant he wanted the horse to take bread round in a van, which he showed him. Defendant, in the presence of witness' man, said "This is just the horse you want. It is perfectly sound and quite fit for your work." He also said it had been working in a mineral water van all the summer. He paid the defendant £7 in hard cash, and he gave him his pony, value £5. He would not have bought the horse if the defendant had not made the statements he did about the horse. The next day the horse was very lame, and on the following day it was worse still, and could scarcely get along. On Friday it was left in the stable, and on Saturday he called in a veterinary surgeon. In consequence of what he said, witness went on Sunday to see the defendant about the horse. Defendant offered to send down another horse, and this he did on Sunday evening, but it proved useless. He wired to the defendant, asking him to take both horses back. This defendant did not do, and on the 28th November witness sent the animals back to Deal by a Mr. Hudson. Defendant refused to take the first horse in, and he said to witness, who was also present, "You've been had, and now you're crying about it. I've often been had." Witness told him he had warranted the horse to be sound, and defendant replied that he had given no written warranty. On the Wednesday witness had the horse inspected by Inspector Freeman, of the R.S.P.C.A., with the result that arrangements were made for the disposal of the animal to the knackers, who offered 13s. for it. At present the horse was in a meadow till the knackers were ready. From 13s. would have to be deducted the 4s. for the man Hudson for taking the horse to Deal.

Cross-examined: He admitted £12 was not a big price for a horse, and he did not expect to get a first-class animal. The defendant gave his warranty of his own free will. Although the amount of the purchase money was small it did not surprise him that the seller should have said the horse was perfectly sound. He was confident that the defendant gave this verbal warranty. He denied the defendant said he had had the horse only three days, and that it was a little shaky on the fore feet. He did not work it hard on the rounds; the journey was only about three miles.

Frank Brown, in the employ of the plaintiff, said he saw the defendant and the horse on 21st November, and he was present at the bargaining. The defendant said the horse was sound and fit for the work, and also that it would improve by working. The price was afterwards fixed at £12. On Wednesday he accompanied Mr. Marx with the horse on the rounds, and it appeared very stiff. Defendant said nothing about the horse being "shaky" on its fore feet. They went to Liverpool Street from the shop out as far as the "Orange Tree," Maxton, and back again. The next day the horse was worse still, and on Saturday it was seen by Mr. Clyde, the veterinary surgeon. On the Sunday evening the defendant sent

another horse, but when this was tried on Monday it was found to be quite useless.

Cross-examined: Defendant said the first horse would improve because baker's work was lighter than it had been previously doing.

Mr. Watts: But how could it improve if it were perfectly sound?—It could by rest.

Did you not understand there was something the matter with the horse if Mr. Marsh said it would improve?—Not at all.

George Hudson, of 37 George Street, said he was engaged by Mr. Marx on November 28th to take two horses to the defendant at Deal. On the way he found he was stopped by the County Police, who called his attention to condition of the brown cob.

Mr. Watts objected to this evidence.

Witness, continuing, said Mr. Marx went by train and accompanied him on arriving at Deal to Mr. Marsh. Mr. Marx told him the cob was no good and that he must take it back. Defendant's boy ran the horse up and down and it went very lame, but defendant said he could not see it. Defendant said to Mr. Marx, "You've been 'had.' I've often been 'had.'" When Mr. Marx said he had warranted the horse, defendant said "Where's your warranty?"

Cross-examined: He did not think it unlikely that after defendant said he could not see that the horse was lame, he would say "You've been 'had.'"

His Honour: How I wish the law would insist on a written warranty! (Laughter.)

Mr. Chitty: It would reduce litigation, your Honour.

Mr. Clyde, veterinary surgeon, of Dover, stated that he examined the brown cob and found it to be suffering from ossification of the feet, which were contracted. It was useless for a trotting job, for which Mr. Marx required it. If it were given a good rest and then smartly whipped up it would give a good account of itself for the time being. If it were shod in a certain manner the lameness could be alleviated to a certain extent. At the time he saw it on the Saturday it was quite incapable of going to work.

Cross-examined: The horse had sidebones, and if Mr. Richardson (another veterinary surgeon) said there were none, he should still say there were. It could be made workably sound by being shod in a particular manner.

His Honour: Would it be fit for Mr. Marx's work?—No, for walking only.

By Mr. Watts: A perfectly sound horse was not sold for £12.

By Mr. Chitty: He had seen plenty of horses at that price which would have been fit for the plaintiff's work.

Inspector J. Freeman, R.S.P.C.A., said he examined the cob at Deal with Mr. Marx on 29th November. She was lame on both fore feet, and suffering from ringbone and sidebone. The animal was incurably lame, and he advised it to be destroyed. It was fit for no work.

Cross-examined: He had had forty-five years' experience and had passed three severe examinations. He would not say any veterinary surgeon was wrong; everyone was entitled to his own opinion.

This concluded plaintiff's case.

Defendant, giving evidence, denied saying anything about the horse being sound. Plaintiff said "Is it all right, Marsh," and witness said "All its faults you can see for yourself. It is a bit shaky on the fore feet, but that will very likely improve with your work." He told plaintiff he had had the animal only a few days. He denied giving a verbal warranty, and nothing was said about one. He had never heard of a perfectly sound £12 horse. When Mr. Marx came to see him, witness made no remark about his having been "had."

Cross-examined: He had had the horse only three days when he sold it, and he did not know much about it. He did not consider the lending of the second horse to the plaintiff amounted to an admission, because Mr.

Marx came to him on the Sunday and said he must have a horse for the morning as both his horses were lame.

John Hamilton, of Deal, who said he was with the defendant at the time of the sale of the horse, gave corroborative evidence.

Cross-examined: Marsh told the plaintiff the horse would do for his work, and that it had been all right during the time he had had it.

Mr. Richardson, veterinary surgeon, said he examined the horse on Wednesday, November 29th. It was lame on the off fore leg, and both fore tendons were contracted. He saw no evidence of sidebone or ringbone, and what he could not understand was that neither Mr. Clyde nor Mr. Freeman noticed that the horse had been shod in leathers. It was over at the knees, and the heels were contracted.

Cross-examined: There was no such thing as ossification of the fore or hind feet; he had never heard the term in that connection before.

His Honour said that if the line of defence was that no warranty was given the evidence of this witness was not material.

Mr. Watts submitted that if His Honour decided a warranty was given, this evidence would be material.

Mr. Richardson, in reply to further questions, said the horse could have been made workably sound by proper treatment.

Arthur Bushell, employed by the defendant, denied the words "You've been 'had'" were used by the defendant.

Cross-examined: He did not hear what was going on when he was trotting the horse up and down.

Mr. Watts submitted that defendant's story was borne out by the probabilities of the case.

Mr. Chitty contended that the defence as to the question of a warranty was overwhelming. He submitted that the evidence for the prosecution was contradictory, and that the fact of the defendant lending another horse as a substitute amounted to an admission.

His Honour, in giving judgment, said in all cases of this kind it was much more satisfactory to have a written warranty. He considered the plaintiff had failed to prove beyond reasonable doubt that the defendant did give a warranty. Weighing one side with the other he felt there was a slight preponderance on the plaintiff's side, but it was not enough. He held that reasonable doubt did exist in this case, and he would give judgment for the defendant.—*The Dover Express*.

What of the Horse?

To the Editor of *The Nottingham Guardian*.

Sir,—The complaints of injustice to owners and users of horses are isolated ones only as far as publicity is concerned. The horse in the past has always proved its supremacy in utility, combined with cost and upkeep, as a user of the King's highway. It has, however, to meet rivals and competitors, and undoubtedly the foremost is the motor vehicle. The point I wish to mark is that of fair competition. We have seen, and do see now, the growth of the motor vehicle, fed with alterations in laws, concessions in regard to the streets and highways and in other ways, all of which are perfectly in order so far as these new arrangements do not trespass on the rights of other users of the roads. There is not the slightest doubt but what they do, and whereas motor vehicles have organisation behind them to assert their requirements and attain their desires, the horse has not.

There is nothing surprising in this. Had not the motor vehicle organisation behind it from the first it would have progressed less, very much less, and the horse owner and user would not have had his rights imperilled, and as organisation to-day is necessary to suc-

cessfully meet organisation, the only logical conclusion possible is that for their rights, for their liberties, and for their security, horse owners and horse users, and in a word, all interested in the horse must organise, must combine, must co-operate. It is with these facts considered that I have formed an opinion on the question. If it is true, as I am told, there are societies and organisations in existence for the purpose I have mentioned, it would seem they exist in name only. What is wanted is a society which will embrace every horse owner, user, and well-wisher, that can have authority and power, representing as it would by far the greatest users of the roads.

To attempt to stay or retard true progress would be as futile as it would be wrong, and any efforts which I, with the help of others, may and are making are not antagonistic to the real progress of efficient means of transport. We live in a day of speed, but speed at any price is not progress. In the reports of the companies controlling motor propelled vehicles in the large centres of the world we see a tremendous amount of capital returning nothing to its owners, except greater speed in transportation to them and the community generally. And this at the expense in road alteration and numerous other ways which encroach upon the rights of, and put difficulties in the way of means of transport which gives a return on capital. There can be no sentiment in the horse; he pays and has done since he was created. Therefore to put difficulties in his way, to endeavour to assist his substitute is not only unfair but dangerous.—I am, sir, etc.,

G. H. KEEBLE.

John's Disease—Departmental Committee to be asked for.

At the meeting of the Council of the Central and Associated Chambers of Agriculture on Tuesday, January 30th, at the Surveyors' Institution, Westminster, Sir Luke White, M.P., presiding:—

Prof. PENBERTHY moved the adoption of the report of the Cattle Diseases Committee, which recommended that a deputation from the committee should wait upon the Board of Agriculture to ask for the appointment of a Departmental Committee to inquire into the nature of John's disease. He said that this disease was recognised under various local names, and it was to be feared that it was greatly on the increase. It was an affection of the lining membrane of the intestines, caused by a micro-organism, and its symptoms were diarrhoea and wasting. The cattle affected contaminated the pastures. So far science had discovered no cure for it, or any real practical measure for its prevention. As a rule the disease was fatal to the animal attacked. Sometimes it affected only one animal on a farm, and at other times a farmer might lose as many as twenty or thirty cattle.

Mr. T. LATHAM, who seconded, said that sheep were liable to the disease as well as cattle.

The report was adopted.—*The Times*.

"When Doctors Differ."

Mr. Plowden, the Marylebone magistrate, commenting on the divergence of opinion between two veterinary surgeons, said that most people, whether they had had any training or not, could tell if a horse was lame, and an ordinary man in the street could do it generally with success, but there were two skilled persons, one of whom said the horse was very lame, while the other said it was not. After his long experiences of the differences of veterinary surgeons he was quite expecting that one day one veterinary surgeon would come and say, "This is a horse," and another would say, "It isn't." (Laughter). That was about the only thing left in which they could not differ.—*Evening Express*, Liverpool.

Workmens' Compensation—A Referred Case.

At Tiverton County Court on Saturday a somewhat unusual case came before Judge Beresford, an agreement under the Workmen's Compensation Act having been referred to his Honour by the Registrar, who did not consider the compensation agreed to therein adequate, although the parties and their solicitors concurred. The agreement was made between John Blackmore, a Talaton labourer, (father of Jonas Blackmore), and Mr. S. H. Down, a Bampton veterinary surgeon.

Mr. Tweed, solicitor for Blackmore, stated that after a long correspondence with the insurance company his client agreed to accept £10 rather than have the expense and trouble of litigation.

His Honour thought he had no power to order a bigger sum.

Mr. Clutson, for Mr. Down, said Blackmore was incapacitated for seven weeks, but during that time was paid full wages. He, however, claimed a lump sum from his employer for disfigurement, having lost one ear. The company offered £10 and £2 2s. costs, and this was accepted and embodied in an agreement.

Judge Beresford: £10 seems a very small sum as compensation for the loss of an ear, and I would suggest that the Insurance Company increase the sum to £20.

Mr. Clutson said the judge's representation should be placed before the company, and if they agreed, the case would have to be brought before the Registrar.

The Control of the Milk Supply.

At a meeting in December in Cupar, the Fife Local Authority had under consideration the scheme of the Association of Veterinary Officers of Health with reference to tuberculosis, the object of which is to put the control of the milk supply into the hands of a central authority, preferably the Board of Agriculture. Mr. E. E. Morrison, Bonnytown, moved that the Committee give their general approval to the scheme of the Veterinary Officers. They should employ veterinary surgeons, he said, more than they did at present. They had men coming into their byres and inspecting their premises who knew little about cows, and it would be much better if they had veterinary surgeons. Mr. Morrison's motion was adopted.—*N.B.A.*

Goat-Keeping in Ireland.

A conference took place at the Castle, Dublin, in December, organised by the Department of Agriculture, and presided over by Her Excellency the Countess of Aberdeen, to consider the Department's scheme for the improvement of goats in Ireland, and to facilitate their being kept by small-holders.

It was decided at the Conference to establish an Irish Goat Society to work in connection with the British Goat Society in England, and to form local associations, under the direction of the head society, to encourage goat-rearing and create a supply of milk amongst cottagers who rarely have an opportunity of tasting it.—*Live Stock Journal.*

Patent Medicines and the Press.

The scandalous way in which the entire British Press—with two or three honourable exceptions—boycotted the British Medical Association's publication "Secret Remedies" in 1909 is a standing record of the complete power of the nostrum vendors and their advertisements and of the ignoble cowardice of newspaper proprietors. The special "quackery" number of *The British Medical Journal* some six months ago met with a similar fate.

There is need for many more torchbearers before truth can be properly revealed to the multitude. Of those who have kept the flame alight hitherto, honourable mention is especially due to Dr. Henry Sewill, whose addresses and contributions to *Vanity Fair* have long been means of enlightenment both to the public and the medical profession. Dr. Sewill has long agitated for a Royal Commission as the best way to unsettle the conspiracy of silence of the Press as a whole.—*The Hospital.*

The Uses of Izal.

Messrs. Newton, Chambers & Co., Ltd. (Thorncliffe, Sheffield) will gladly send their series of handbooks on disinfection to readers of this journal on receipt of a postcard. *Medical Izal* contains reprints from the principal medical journals, of papers dealing with the use of Izal in the treatment of phthisis, puerperal sepsis, tropical dysentery, enteric fever, cholera, and tinea favosa capitis. *Practical disinfection* deals with the domestic uses of Izal. *The Veterinary Handbook* is full of useful information for owners of horses, dogs, cats, poultry, etc. The last of the series, *Izal in the Dairy*, apart from its purpose as an advertisement is a really useful handbook at a time when the conditions of milk production are claiming so much attention.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Jan. 26.

REGULAR FORCES. ARMY VETERINARY CORPS.

Brevet-Maj. A. G. Todd, A.V.C., to be Dep. Assistant Director-General, *vice* Capt. H. E. Gibbs, who has resigned that appointment. Dated Jan. 17.

Capt. H. M. L. Conyngham to be Major. Dated Jan. 6.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. J. L. C. Jones to be Captain. Dated Aug. 18, 1911.

The undermentioned officers arrived from India in Transport "Dongola" on Jan. 17th, and have been posted for duty:

Major E. E. Martin to Woolwich; Major A. C. Todd to War Office to take up appointment of Deputy Assistant Director-General, A.V.S.

Captains J. S. Nimmo to Aldershot; W. H. Simpson to Leeds.

The following officers embarked for India in Transport "Dongola" on Jan. 27:

Captains F. S. Probyn and A. Leaning.

His Excellency the Earl of Aberdeen, K.T., G.C.M.G., G.C.V.O., Lord Lieutenant, held his first Levée of the season at Dublin on Tuesday. In the list of those present are:

Prof. Mettam, President Royal College of Veterinary Surgeons, presented by Sir Christopher Nixon, Bart.

Lieut.-Col. J. Moore, F.R.C.V.S., presented by the Commander of the Forces.

No fewer than forty-two candidates applied for the post of Medical Officer of Health for the county borough of Wigan.

CORRESPONDENCE.

OUR CONVENIENTLY SHORT MEMORIES.

Sir,

The perusal of the report of last Council meeting as it appears in *The Veterinary Record* cannot fail to strike most of us as a remarkable illustration of the shortness of the human memory.

The report states that Mr. Barrett suggested that for the sake of modifying opposition it might be judicious to restrict the annual fee to half-a-guinea. This apparently innocent and pertinent remark raised quite a storm, one member said—"The question of the annual fee as proposed in the Bill was thoroughly discussed . . . and it was *practically unanimously* settled that it should be one guinea. I think there were only about three dissentients." Another—"Is it open to a member of this Council . . . to suggest that the Council should go back upon its *practically unanimous* decision that the Bill should stand as it is?" *Practically unanimous*—how does this accord with the facts?

The report of a Council meeting which appeared in *The Record* of 10th April, 1909, showed that on an amendment proposed by Mr. Dollar, that for the words "a fee of one guinea" the words "such fee not less than 10/6 nor exceeding one guinea as the Council shall from time to time direct," should be substituted, a lengthy wrangle took place, after which vote was taken and was thus reported: "The amendment moved by Mr. Dollar, seconded by Prof. Williams was then put, and the President declared it lost, stating that nine voted for and ten against. An appeal was then made to him that the vote should be taken again, as another count made the voting equal. The vote was then taken again, and resulted in a tie, ten voting for and ten against. The President: Without hesitation I give my casting vote against the amendment."

Practically unanimous!—Yours, etc.,

J. R. U. DEWAR.

Edinburgh, Jan. 25.

"WHISTLING."

Sir,

The case described by Mr. Spreull is a very interesting one. Instances of this nature explain some, at least, of the marked differences of opinion that occur with reference to the soundness of a horse's wind. At the same time if the animal in question was examined in the ordinary manner he would probably have been condemned as a "whistler." In examining horses we seldom expend the amount of time mentioned by Mr. Spreull in this case; probably had the horse been subjected to a severe test at the first examination, it would have been found that the abnormal sound would have disappeared. We frequently find that well-bred hunters when very fresh may whistle in an intermittent manner when cantered in a circle, but when permitted to extend themselves no abnormal sound can be detected.

But there is an important matter to consider in connection with such cases, although one veterinary surgeon may be of opinion that a horse showing the above peculiarity in respiration is sound, another may hold the contrary opinion. Again the purchaser must be informed that the horse whistles in the manner mentioned. If the animal is sold shortly after purchase, it is quite possible that on being subjected to examination, he may be rejected as a whistler. It is a common experience that such animals do become whistlers in a variable period, while *per contra*, others may continue sound for life.

At the same time, a horse that showed the peculiarity of respiration described by Mr. Spreull might be a risky purchase for a man who intended to sell him at a profit.

Even for stud purposes there would be considerable risk, as if the horse was entered for a show few veterinary surgeons would be fond of who would devote the time required to find out the idiosyncrasies of the animal. Moreover, it is seldom possible, or even desirable, to subject a stud horse

to so severe a test as that described by Mr. Spreull, and few owners would permit a stallion to be galloped "to a stand-still." The probability is that the animal would be tested in the ordinary manner and rejected, although after-events might prove that he was sound.

The subject of whistling is in reality a most important one, although it is treated of very lightly in text books. As compared with roaring there are some points worthy of consideration. Except in intermittent cases, there is no difficulty in detecting roaring, all that is required is the faculty of hearing; and the abnormal sound can be heard by the layman as well as by the professional.

But with whistling it is a different matter: here great discrimination is necessary not only in detecting the sound in slight cases, but also in differentiating it from certain peculiarities of respiration which may be perfectly normal.

Again, whistling in many cases requires a severe test before the abnormal sound is manifested, while in the case of roaring but little exertion is necessary. Pages might be written on the peculiarities displayed by whistlers; some horses whistle only while ridden in a circle, others when galloped in a straight line; some whistle most distinctly at the commencement of their work, others after being subjected to severe exertion only, while others again only display the abnormal sound after being pulled up.

Again, there are sounds which cannot be described as either whistling or roaring, and these often give rise to considerable differences of opinion as to whether they should be regarded as causes of unsoundness.

Some practitioners indeed claim to possess such remarkable powers of diagnosis that they pretend to differentiate these sounds from those known to be abnormal, and even venture to locate the origin of such.

In conclusion, I venture to put the following queries in the hope of gaining information.

(a) What is "thick wind?" The term is often used, but it would be interesting to know what condition it really refers to, and how it is to be differentiated from the harsh blowing of horses that are out of condition.

(b) What is the necessity for performing the new operation for roaring on stud horses and mares intended for breeding purposes, that are roarers?

A question was recently asked on this subject as to whether such animals if cured (?) should be considered as sound. As these animals are not worked or subjected to exertion, why operate on them at all, unless, of course, it is considered proper to render them apparently more valuable in the sale ring.

Why is roaring objected to in animals for stud purposes? Surely it is because the disease is regarded as hereditary. Does the operation do away with the hereditary tendency of the disease? If it is a nervous affection (and there is much evidence to support this view), then I fail to see how stripping the ventricles can have any effect on the nervous lesions on which the disease depends.

It would be as rational to hold that because an animal suffering from navicular disease goes sound after neurectomy has been performed, that such animal should be regarded as sound for stud purposes.

From an ethical point of view, both operations should be condemned in the case of stud animals, but more especially that for roaring, as it effectually conceals the existence of the disease from the veterinary examiner.

As to the propriety of operating on roarers the property of dealers, whose object is to sell the animals as sound, it is quite possible that opinions will differ. If those unfortunate sequels to the operation which have lately been discovered become more frequent, and operators get more numerous, then it is likely that in future when examining horses we shall ask for a special guarantee from the sellers that the operation has not been performed.

Of course some practitioners may not regard the matter in the above light, being comforted by the thought—

"For the jingle of the guinea
Helps the hurt that honour feels."

—Yours, etc.,

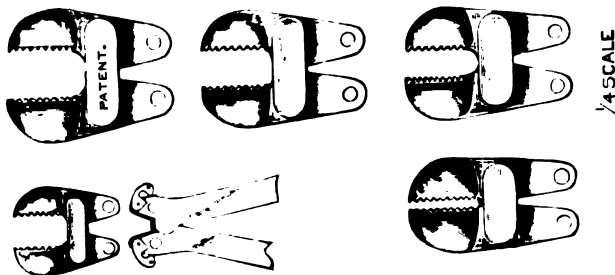
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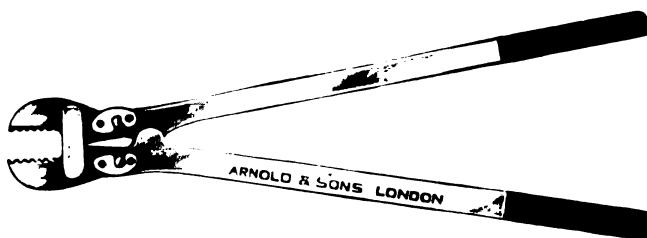
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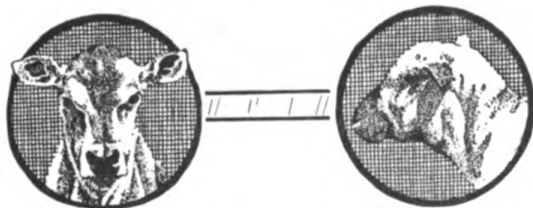
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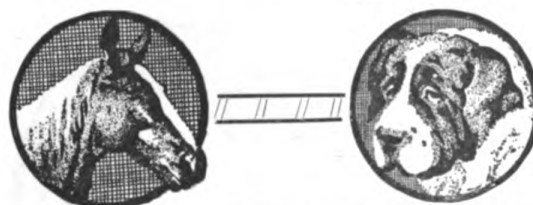
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Continued from page III.

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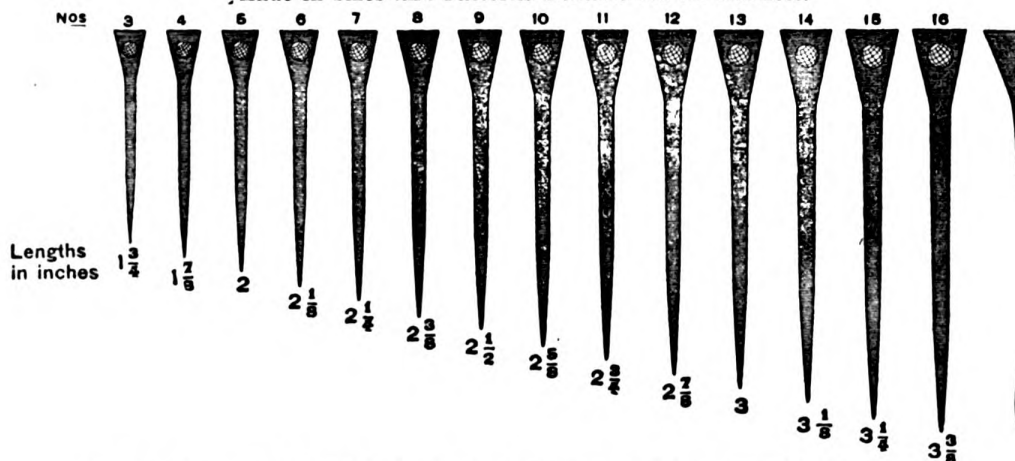
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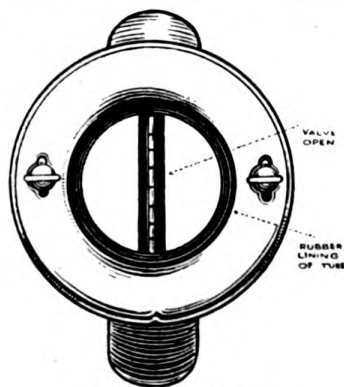
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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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FEBRUARY 10, 1912.

VOL. XXIV.

JOHNE'S DISEASE.

Recently the Central and Associated Chambers of Agriculture decided to ask the Board of Agriculture to appoint a Departmental Committee to enquire into Johne's disease. Certainly the time seems ripe for the formation of such a Committee. It might result in the institution of experimental work—perhaps to prove as valuable as that undertaken a comparatively short time ago upon epizootic abortion—and it would certainly increase our knowledge of the disease and its incidence in this country. So few years have elapsed since the condition was first recognised as existing here that we have still much to learn regarding its prevalence and rate of increase. It seems to be spreading, but it is possible that its frequent detection in hitherto unsuspected localities—in which it may have existed for a long time—may account for some of this apparent increase. A Departmental Committee could at least answer the question whether the disease is now, or is likely to become, sufficiently widespread to warrant legislation against it. At present, considering its mortality and the futility of treatment, it certainly seems that legislation might save the country from heavy losses in the future.

SKIN STERILIZATION.

Our French contemporary, *La Semaine Veterinaire*, in the course of some editorial remarks upon the simplicity and efficacy of the method of sterilising the skin for operation with tincture of iodine, raises an interesting question. Is not the alcohol in the agent at least as potent a factor in obtaining success as the iodine? Very probably it is. The theoretical principle of the method is to flood the skin with some germicide capable of penetrating the microscopic clefts and spaces within the epidermis, which previous washing with soap and water would tend to occlude. Many substances would probably serve the purpose as well as preparations of iodine; as some are known to do. Our contemporary mentions the old veterinary dressing of tincture of aloes as possibly destined to revival; and the same might be said of other tinctures formerly used as dressings, such as myrrh. Petrol and benzine, again, have both been found efficient substitutes for tincture of iodine. Many other agents, especially tinctures, would probably be just as useful, while free from the liability of tincture of iodine, unless very fresh, to form the objectionable hydriodic acid. There is room for further work here; for the new method of skin sterilisation has so much to commend it, in veterinary practice especially, that we should learn more of the various agents which may be utilised in it.

STREPTOCOCCAL INFECTION IN SHEEP.

Six times within four years, in the carcasses of sheep sent for investigation to the bacteriological institute of the Königsberg Chamber of Agriculture, a disease has been demonstrated, a constant feature of which was that streptococci could be cultivated in great numbers from all the organs. J. Wiemann now publishes (*Zeitschr. für Infektionskrankh. u.s.w. der Haust.*) an account of this disease.

The affected sheep show, as an especially striking symptom, an exceedingly soporose condition, lying or standing apathetically. They lose flesh rapidly, and the appetite almost completely fails. The pulse is quickened, but the temperature is not particularly elevated, and the respirations, so long as the lungs are not affected, are calm. Then symptoms set in from the seat of the primary affection, through which the disease can manifest itself in three different forms, viz., as endometritis with consecutive peritonitis, as catarrh of the upper air passages, and as enteritis.

As a rule the disease appears first amongst the ewes, often a short time after lambing, and then spreads to the other sheep. The first cases take a very acute course, and are fatal in a few days. In these cases the pathologico-anatomical appearances are very insignificant. But when the disease is of longer standing in a flock, its course gradually becomes subacute, and now the respiratory cases become more frequent. The animals die in from 7 to 14 days, and show severe fibrinous pleurisy and pericarditis upon post-mortem examination.

In lambs the disease is almost always acute or peracute. The animals often die in from 6 to 24 hours, especially the lambs of affected mothers.

The disease is endemic in character, and is often confined to single compartments of the shed. When the shed is abandoned, and the diseased animals separated from the healthy ones, the disease disappears. It must, therefore, be transmitted to the sheep, in the first place, from the floor of the shed, but a direct transmission from sheep to sheep can also occur.

Probably the favourite portal of entry of the virus to the organism is the physiologically hyperæmic genital tract after parturition. But the germ can penetrate by other mucous membranes, especially those of the oral and nasal cavities and of the intestines, and also by wounds of the external skin.

The pathogenic germ, a streptococcus, is present in all the affected organs, in the secretions and excretions, and is especially numerous and easy to demonstrate in the blood.—*Berliner Tier. Woch.*

BILATERAL INTERCOMMUNICATION OF THE LYMPHATIC SYSTEM.

H. Baum discusses (*Deutsche Tierarztl. Woch.*) the question of whether lymph-vessels pass over the median line to communicate with those on the other side of the body. Despite the great practical importance that pertains to this subject, it has hitherto been almost unstudied in animals. Baum, having carried out extensive injections of the lymphatics, concludes as follows;—In the ox, there are lymphatic vessels which pass over the median line, and open into the lymphatic glands of the other half of the body. This especially applies to the lymph vessels of the medially situated portions of the outer skin, the point of the tongue, the hard palate and the gums, the lower lip, the thyroids, the trachea, and œsophagus, the lungs, the thymus, the kidneys, the longus colli, and the vasa efferentia of the mammary lymphatic glands.—*Berliner Tier. Woch.*

LARGE ROUND-CELLED SARCOMA (PRIMARY) IN AN OX'S LUNG.

Primary sarcomata in the lungs of animals are rare. Franz Halász, however, records (*Allatorvosi Lapok*) finding a fungus-like neoplasm arising from the lung of an ox upon a peduncle 4-10th inch long by 1 1-5th inch broad. The neoplasm itself was 3 1-5th inches broad, and was rugged; the pleura covering it was smooth, shining, and transparent. The sectioned surface of the neoplasm was grey-red sprinkled with black-red spots; it was soft in consistence, and was easily lacerated. Microscopically it was found that the neoplasm was encased in a capsule of connective tissue, from which septa of connective tissue proceeded, dividing the neoplasm itself into "islands." In the septa were large roundish connective tissue cells, and also smaller round cells with round nuclei.

The starting-point of the sarcoma in this case was the interlobular connective tissue of the lung; and, as the tumour originated superficially in the vicinity of the pleura, it was able to extend outwards on account of the lack of resistance against it.—*Berliner Tier. Woch.*

THE TREATMENT OF FOLLICULAR MANGE.

J. Miller reports favourably upon the treatment recommended by Gmeiner, of Giessen, for follicular mange. He describes its lines as follows. At the commencement of the treatment, the hair is removed from the affected parts and their surroundings as completely as possible. The whole body is then cleansed in a bath of $\frac{1}{2}$ to 1 per cent. watery solution of sulphurated potash. A few drops of the following mixture are then applied to the affected parts with either the finger or a soft brush—

Ol. Carui	
Spiritus	aa. 10 parts.
Ol. Ricini	150 "

This is rubbed in gently but firmly; and each affected place should be rubbed for at least three minutes, so that the Ol. carni may penetrate as deeply as possible into the skin. Generally this

treatment is carried out once daily, but in extensive cases it may be done twice daily.

Miller reports 31 cures, and says that in slight cases the disease can be overcome in a few weeks. Severe cases, such as those of the pustular form of the disease, in which the pustules can be broken and pressed out, require a longer treatment. Cases in which there is great thickening of the skin, indicating a deep situation of the parasites, resist even the above treatment.—(*Berliner Tier. Woch.*)

W. R. C.

606 AND GLANDERS IN EXPERIMENTAL ANIMALS.

Infective glanders material obtained from a 3-day glycerine agar culture, was introduced intra-peritoneally in guinea pigs and rabbits, and subcutaneously in cats.

Three different methods were adopted for the 606, viz., Alkaline solution for intravenous, suspension in liquid paraffin for subcutaneous, and neutral suspension for intra-muscular.

Fifty-two animals were used, and the following results were noted:

1. Injection of 606 affected the development of the disease,
2. In case of acute glanders it is possible to sterilise the affected animal by means of blood from another animal that has died.
3. The destruction of the glanders bacilli is probably due to two factors; the chemical action of 606 and the action of bodies formed under the influence of the effect of 606.
4. The best way of introducing 606 is intravenous injection in alkaline solution in dose of 0.1 per kilo of the animal's live weight.—*Revue Russe.*

DIAGNOSIS OF GLANDERS IN DEAD MEAT.

In the slaughterhouse at Leyden, where many horses imported from England are killed, the inspector uses the agglutination and deviation of the complement as a test, and is able to arrive at a conclusion in 8 hours, while the length of time necessary for cultural experiment is too long to be practical.—*Centralblatt für Bacteriologie,*

STAINING MICROBES IN SECTIONS.

Useful as the methods of Gram and Ehrlich are, for many reasons the following technique may be adopted with good results.

Not only can the organisms be well studied, but the lesions they induce are also rendered clear. Technique:

1. Stain for 3—5 minutes with Grüber's polychrome blue. Wash with distilled water.
2. Differentiate for some seconds with watery solution of Tannin in ether 10%. Wash. Dehydrate rapidly in absolute alcohol.
3. Stain each section for 3—5 minutes in a solution of Eosin 1:2000: Aurantia 1:1000 aa. Wash. Dehydrate quickly.
4. Clear quickly in Olive oil or Xylol.
5. Mount in Canada balsam. The protoplasm, according to its character, will stain red or yellow, or in a distinct combination of these two

tints. Nuclei and bacilli will be blue. Red corpuscles a bright orange yellow, and fibrin a pale rose.

The following solution is a good preparative for the above method;

Alcohol 5%	Grm. 100.
Sublimato	" 10.
Acid Picric	" 5.

After two days in this, place in Acetone pur. grm. 100, Tinct. Iodine grm. 10, for two days: then:—

Acetone pur.	6 hours.
Alcohol abs.	24—36 "
Alcohol Xylol	6 "
Xylol	6 "
Xylol parafin	6 "
Parafin 45	6—12 "

The method is quite new and has not hitherto been published, but has proved highly satisfactory in practice.—*La Clin. Vét.*

F. E. P.

NODULAR DISEASE OF THE INTESTINES OF CATTLE.

By WALTER JOWETT, F.R.C.V.S., D.V.H. (Capetown).

[ABSTRACT].

Nodular disease of the intestine of the sheep ("knopziekte," as it is popularly termed), is quite well known to those interested in sheep-farming in South Africa, but, as far as one can judge by perusal of the literature relating to the diseases of animals in this country, little attention appears to have been paid, so far, to an almost identical nodular disease of the intestine of cattle, which is met with quite frequently, at any rate in Capetown and the neighbouring districts in the Cape Province. There is no doubt that the "knopziekte" of sheep is widely spread throughout South Africa, being met with, in all probability, wherever sheep-farming is carried on at all extensively; whether the closely related nodular disease of the intestine of the bovine animal is equally prevalent, one is not yet in a position to state with any considerable degree of certainty; as already mentioned, it is common enough in the Cape Peninsula, and it is hoped that by calling attention to the subject one may as a result gain some idea as to the prevalence of the disease elsewhere in the Union.

IDENTITY OF THE PARASITE.

The nodular disease of the intestines of bovines was first described by Drechsler of Munich in 1876. Sauke afterwards confirmed the findings of Drechsler. Oster-tag states that he has frequently seen the sub-mucous nodules in the intestines of cattle slaughtered at the Berlin abattoir.

As to the identity of the larva, the causal agent of this diseased condition, there has been much diversity of opinion, it being, of course, impossible to determine the species of a given parasite of this nature by the mere examination of larval specimens alone, and, as already pointed out, it is only such immature worms which are present in the sub-mucous nodules. The determination of the species, then, rests on the result of examination of adult and sexually mature worms—the males especially—which are present in the *intestinal contents* of the host; these, however, are not invariably present in the lumen of the gut of the ox concurrently with the presence of the larva-containing nodules in its intestinal wall. Moreover, it is somewhat difficult at times to

isolate worms so minute as are those now under consideration from the large mass of material contained in the bovine intestine. The adult parasite occurring in the intestinal contents, even when fully developed, measures only 15 to 20 millimetres in length (roughly about three-quarters to four-fifths of an inch), whilst the larval worm in the nodule is only one-twelfth of an inch long. Strose, and some of the earlier writers who studied this condition, regarded the small nematode present in the nodules as an ankylostome (*A. bovis*), Von Ratz being one of the first to consider it as representing the larval stage of a different species of parasite, namely, an oesophagostome. More recently Marotel has studied the question of the identity of the parasite afresh in France, and, as a result of his researches, he has definitely shown that the nematode present in the nodules is, in reality, a larval oesophagostomum. This investigator finds that the particular species concerned in the case of cattle in France is the *Oesophagostomum radiatum*. According to Marotel, the young nematode passes through at least three successive stages:

- (1) A strongyliform larva with a small mouth;
- (2) An ankylostomiform larva with an ellipsoid and monodentated mouth; and
- (3) An oesophagostomiform larva with an elliptical and cuticular enlargement in the cervico-ventral region.

Says Marotel in this connection: "Each nodule encloses a young oesophagostome of variable shape and development. The length of the worm does not exceed 3 millimetres in the case of the ox (this measurement, of course, refers only to the worm found in the nodule). As long as they measure less than 4 or 5 millimetres, these larvae correspond to three types: those of 1 millimetre resemble strongyles (strongyliform larvae); those of 2 millimetres remind one of ankylostomes (ankylostomiform larvae); those of 3 millimetres are comparable to oesophagostomes (oesophagostomiform larvae). Finally, the individuals which exceed 4 or 5 millimetres are perfect, but still immature oesophagostomes; in order to reach the adult state, to copulate, and to reproduce, they are obliged to quit the nodules and to gain the lumen of the intestine."

The evolution of the oesophagostome, then, comprises two parts, the one which is effected in the interior of the intestinal nodules, and the other which is passed in a free state in the intestinal cavity: the first is of variable length, in accordance with the species involved.

Here one may state that the larva found in the intestinal nodules of the South African cattle is, as far as one can judge, identical with the parasite depicted by Marotel as present in similar nodules in the intestinal walls of cattle in France, and, as far as this investigation is concerned, the present writer regards the parasite responsible for the diseased condition here dealt with as an oesophagostome. Whether the species involved in South Africa is *O. inflatum* or *O. radiatum* one is not yet prepared to affirm, more extended study of adult specimens being necessary to decide this point. However, so far, the author inclines to the view that it may be the species last referred to (*O. radiatum*), but one hopes to study this question further as the opportunity to do so presents itself.

SYMPTOMS.

With regard to the symptoms exhibited by cattle, the subjects of the nodular intestinal disease much depends upon (1) whether the infection is a heavy one or otherwise, (2) whether it is recent or of some standing, and (3) the degree of resistance which the host is able to offer against the harmful effect of the parasitic invasion. Says Marotel in this connection—"Clinically it (*i.e.*, the nodular intestinal disease) reveals itself by the appearance of a chronic enteritis, watery diarrhoea, progressive wasting, anaemia, and cachexia; it terminates usually

in three or four months by death in coma, and its gravity is such that in certain cases the mortality reaches the startling figure of 50 per cent." From this description it is apparent that the disease, at any rate as met with in France, is of considerable economic importance. The present writer, however, is inclined to think that the nodular disease of the intestines of bovines encountered at the Cape is somewhat less grave than the picture drawn by the French investigator above quoted. It is not unusual, when conducting post-mortem examinations on cattle slaughtered for food purposes, or on those which have succumbed to some rapidly fatal disease other than the one here dealt with, to find nodules quite numerous present along the course of the intestinal tract, and yet such animals may be in quite good condition, and they may have shown no very obvious symptoms of illness prior to death. On the other hand, there can be little doubt but that where the parasitic invasion is a heavy one, or when it occurs in an animal not in very robust condition, diarrhoea and symptoms of chronic intestinal irritation will be apparent, attended ultimately with more or less anaemia and wasting, and occasionally, perhaps, by death. Such termination, however, is probably not of very frequent occurrence, at any rate in the case of cattle at the Cape.

Obviously, a heavy invasion by the parasite referred to cannot do otherwise than impair the health of the host to a more or less appreciable extent, and to interfere with its nutrition and well-being. It seems justifiable to ascribe some of the diarrhoeas of cattle, often seemingly of obscure origin, to this cause. Moreover, it is well recognised that the lesions excited by the parasite may form the starting points of other diseases; the nodules may, in fact, form the portals of entry for various micro-organisms normally occurring in the intestinal tube, and which, though harmless under ordinary conditions—that is so long as they remain in this position (in the contents only of the intestine)—become decidedly pathogenic once they have gained access to the general circulation.

DIFFERENTIAL DIAGNOSIS.

The only disease with which it is at all possible that the above described lesions may be confounded is tuberculosis of the intestine, and this mistake is hardly likely to be made by any one who is in the least acquainted with the lesions of the malady last mentioned. However, examination of the mesenteric lymphatic glands will speedily settle any doubt which may exist, for whilst these are invariably involved in intestinal tuberculosis, they are intact in the case of the nodular intestinal disease (asophagostomiasis) provided, of course, that the latter is not complicated by some other disease involving the mesenteric lymph glands.

It may not be out of place to call attention to certain lesions of the mesenteric glands, and sometimes also of the liver, which are not uncommonly met with in cattle at the Cape, namely, those due to invasion by the larval form of the *Linguatula Tienoides* (this larval form being known as the *Linguatula denticulata*).

These "linguatula nodules" vary in size from a pin's head to a pea, or may be even much larger than this, and after a time they assume a greenish or yellowish-grey to a green colour, and are frequently of a caseous, mortar-like, or even calcareous consistency. The colour is somewhat characteristic, but in case of doubt microscopic examination will decide the question; the parasite, or if this has degenerated, then its hooks, will be found in the nodules, whilst of course in the case of tuberculous lesions the specific bacillus can be demonstrated. The writer has found the "pentastome lesions" of the mesenteric glands co-existent in some cases with the parasitic nodular disease of the intestines in cattle at the Cape—a combination of lesions which

might deceive the layman, and especially so if only a casual or hasty examination had been made.

PREVENTIVE MEASURES, ETC.

With regard to prevention and treatment of the nodular disease of the intestine one has but few remarks to offer. It is obvious that whilst the larvae remain encysted in the wall of the intestine—that is in the nodules—drugs administered to the host by the mouth will hardly be likely to come in contact with or to have much effect on them.

In the case of valuable animals, one can treat the symptoms of diarrhoea and irritation of the intestine as they arise by the administration of astringents and demulcents—chalk, catechu, and opium in gruel, for example. Raw eggs may be added to this mixture with benefit.

The administration of medicinal agents, such as arsenic, tartrate of antimony, or thymol, will probably rid the host of some of the round worms free in its intestinal contents. Afterwards tonics, such as iron salts (sulphate), and a liberal allowance of rock or common salt, are indicated.

With regard to prevention, naturally, if one is aware that animals become infected at a certain pasture or with one particular water supply, one should remove them, if possible, from such source of infection.

The intestinal contents of slaughtered cattle in which lesions of the nodular disease are present in the intestinal walls should be disposed of in such manner (burning, burying, etc.) that they do not contaminate fresh pasture, since such material is liable to contain adult and fertilised female worms, as well as the ova of these.

There is no reason against the use of the meat of such carcasses for food purposes, provided that it is not emaciated, and that it is otherwise free from evidence of disease.—*Agricultural Journal of South Africa*.

BOVINE TUBERCULOSIS—ITS INTER-COMMUNICABILITY AND DANGER TO MAN.

A. M. TROTTER, M.R.C.V.S., Glasgow.

Presented at the meeting of the Scottish Metropolitan Veterinary Medical Society on February 10th.

The discovery of the bacillus tuberculosis by Koch announced in 1882, opened up new avenues for investigation. At that time Koch claimed that "Bovine tuberculosis is identical with human tuberculosis, and is thus a disease transmissible from animals to human beings." Cultures of the bacillus isolated from human and bovine sources inoculated into test animals produced a disease similar in every respect. Maffucci, a few years later, directed attention to differences between the bacilli of mammalian and avian tuberculosis, and for a time these were believed to be two distinct diseases. Kruse and Pansini, working independently, placed on record the isolation of tubercle bacilli from man and cattle which they regarded as belonging to the avian type. Trudeau, in a paper contributed to the New York Pathological Society, referred to differences in the growth of tubercle bacilli isolated from two different sources. The first grew upon glycerine agar in the form of dry scales, and abundantly on potato. The second, upon glycerine agar, had the consistency of thick cream and failed to grow on potato. Crookshank, in 1891, published the results of a comparative study of the bacilli isolated from men and cows, the horse, pig, cat, guinea-fowl, pheasant, and ostrich. He concluded that "morphological differences are found under different circumstances, and within limits the morphology of the tubercle bacillus varies

with its environment." In 1896 Theobald Smith directed attention to certain differences in morphology, biology, and pathogenesis he had found to exist between tubercle bacilli obtained from a tubercular bull and from a bear which had died of the disease. The bear had been, at one time, a household pet, and it is conjectured it had contracted the disease from its master. The bacilli isolated from this animal was therefore presumed to be of human origin. Two years later the same observer published the results of further investigations and pointed out that the tubercle bacilli isolated from bovines differed from those present in the sputum of human consumptives in that the former were shorter, straighter, more irregular in outline, grew less vigorously upon artificial media, were not so influenced by certain modifications of the culture medium, possessed a tendency to remain short, even when grown on media through several generations, and were more virulent; whilst the latter grew profusely and quickly, and when cultivated became long and slender if they were not so at the commencement.

Vagedes, Dinwiddie, and Frothingham, also published papers on this subject, but it was not until Koch's famous pronouncement in 1901, that the matter aroused universal interest, and investigations were at once undertaken by Government Commissions and by noted scientists all over the world. Koch, in his address to the members of the British Congress on Tuberculosis, stated, "I feel justified in maintaining that human tuberculosis differs from bovine, and cannot be transmitted to cattle. I should estimate the extent of infection by the milk and flesh of tubercular cattle, and the butter made of their milk, as hardly greater than that of hereditary transmission, and I therefore do not deem it advisable to take any measures against it."

These statements were based on the results of a series of experiments which he, in collaboration with Schulz had carried out on nineteen young cattle with material obtained from humans; six had been fed with tubercular sputum almost daily for seven or eight months; four had been caused to repeatedly inhale a large number of tubercle bacilli which had been mixed in water and dispersed through the air in the form of a spray; in the others pure cultures of the bacilli or sputum had been injected under the skin, or into the peritoneal cavity, or into the jugular vein. None of the cattle experimented upon had shown any symptoms of disease and when slaughtered from six to eight months later small suppurative foci only had been found at the place of injection and in which a few tubercle bacilli had been discovered on microscopic examination. Again, six young pigs had been fed daily for three months with the tubercular sputum of human consumptives. Three and a half months later these animals had been slaughtered and on autopsy "no trace of tuberculosis was found, except here and there little nodules in the lymphatic glands of the neck, and in one case a few grey nodules in the lung." Koch, therefore, considered that he was justified in maintaining that human tuberculosis differs from bovine, and that the disease of the former could not be transmitted to the latter. These experiments did not supply an answer to the more important question of whether man is susceptible to bovine tuberculosis. It was, of course impossible to solve the problem by having recourse to the experimental inoculation of man with tubercular material obtained from bovines. Unfortunately, however, there was ample opportunity of determining the transmissibility of bovine tuberculosis to man through the ingestion of milk and its products containing tubercle bacilli. Koch approached this part of the enquiry on the assumption that a case of tuberculosis caused by alimenta can only be assumed with certainty when the intestines suffer first, i.e. when a so called primary tuberculosis of the intestines is found. Taking this as his criterion he instanced that he had only seen

primary tuberculosis of the intestines twice; the records of the Charité Hospital, Berlin, showed only ten cases in five years: Baginsky, at the Emperor and Empress Frederick's Hospital for Children, made post-mortem examinations on 933 children affected with tuberculosis, but never found tuberculosis of the intestines without simultaneous disease of the lungs and bronchial glands, and Biedert only sixteen cases among 3104 post-mortem examinations of tubercular children. He was by no means certain that even those few cases were due to infection by bovine tuberculosis. He concluded, therefore, that the danger to man by the milk and flesh of tubercular cattle, and the butter made from their milk was infinitesimal, and he did not deem it advisable to advocate the enforcement of preventive measures against bovine tuberculosis so far as mankind was concerned.

Two days later M Fadyean (Sir John) delivered a paper on tubercle bacilli in cow's milk as a possible source of tubercular disease in man, in which he submitted Koch's statements to destructive criticism and controverted many of his assertions, and in concluding a masterly oration advocated that we ought not to concede to the milkmen the right to sell us tubercle bacilli, even if we were assured that like Dr. Koch's experimental pigs we had nothing to fear beyond the development of "little nodules here and there in the lymphatic glands of our necks," and "a few grey tubercles in our lungs."

The contention of M Fadyean that human and bovine tuberculosis is inter communicable was supported by Nocard, Bang, Sims Woodhead, Ravenal, Crookshank, and others.

Crookshank contended that Koch had drawn wrong conclusions from his experiments, and that whilst the tubercle bacilli present in the tissues of man and of animals had undergone modifications in the body of their respective hosts, they were in reality derived from a common ancestor. In support of his contention he quoted two experiments which he had carried out some years previously. In one he had injected human sputum rich in tubercle bacilli into the abdominal cavity of a healthy calf. An autopsy on the calf forty-two days later revealed a tubercular deposit at the seat of inoculation with innumerable secondary lesions on the peritoneum and in the internal organs. In the other he had injected tubercle bacilli intravenously into a calf, with a negative result.

The opinion of Koch, however could not be ignored, and the Government of that day deemed it expedient to appoint a Commission to enquire and report with respect to tuberculosis:—

(1) Whether the disease in animals and man is one and the same;

(2) whether animals and man can be reciprocally infected with it;

(3) under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favourable or unfavourable to such transmission.

The Commissioners caused exhaustive enquiries to be made, and their conclusions are published in reports issued in 1904, 1907, 1909, and 1911.

In the first report they showed that the bacilli found in the lesions of certain cases of human tuberculosis produced in cattle a disease indistinguishable from bovine tuberculosis.

In the second they dealt with bovine and human tuberculosis and embodied the results obtained in the investigation of the characters of the bacillus of bovine tuberculosis.

The third dealt with certain conditions of the tuberculous cow which rendered her milk infective.

Their final report dealt with the whole of their enquiry into the tuberculosis of man, of the ox, pig, horse, and some other mammals and birds.

By adopting certain methods of investigation they

were able to compare the characters of the bacilli isolated from tuberculous lesions in different species of animals. They were thus able to distinguish three types of tubercle bacilli—avian, bovine, and human.

The leading characters of these are stated to be as follows:—

Avian. The avian tubercle bacillus forms a slimy, whitish growth, which is easily emulsified, thus contrasting with the growth of bovine and human tubercle bacilli. It grows especially well on glycerinated media.

Fowls are very susceptible to the action of the avian tubercle bacillus by intravenous, subcutaneous, and intramuscular inoculation, and by feeding. On the other hand the rabbit and mouse are the only two mammals in which the avian tubercle bacillus causes progressive tuberculosis. In the former animal moderately large doses of the avian bacillus, though fatal, are less virulent than the bovine, but more virulent than the human tubercle bacillus. This bacillus never causes progressive tuberculosis in the calf, pig, monkey, guinea-pig, horse, cat, or rat, but it sometimes multiplies in the body and becomes disseminated in the tissues, and may kill it a large dose is given intravenously.

Bovine. The bacillus which was found in natural cases of tuberculosis in cattle is that classified by the Commission as the bovine type. It is regarded as the standard for comparison with the bacilli found in the tuberculosis of other animals. This organism grows slowly on serum, and at the end of the second or third weeks shows on the surface of the media a greyish uniform growth, not wrinkled and not pigmented. It is much more virulent than the *Typus humanus*. Its virulence, as evinced by the severity of the invasion produced when inoculated into calves or rabbits, and its mode of growth in artificial cultivation, permits of its being differentiated from the human variety. The effect produced in calves and rabbits was striking and definite. The injection of bovine tubercle bacilli into these animals caused an acute generalised tuberculosis which rapidly terminated in death. For instance, the duration of the life of rabbits subcutaneously inoculated with bovine tubercle bacilli was from 28 to 65 days, whilst with human tubercle bacilli the animals survived or were killed in 94 to 725 days.

Human. The bacilli isolated from the majority of cases of human tuberculosis were found to have definite characters which distinguish them from those present in bovines.* These were therefore termed human tubercle bacilli. They grow more rapidly on serum and the growth tends to become wrinkled on glycerinated media, and becomes pigmented to a greater or less extent in all media. Their virulence is, as a rule, not so marked as those of the bovine type when subjected to inoculation tests under the same condition. In the case of the chimpanzee and the monkey, however, the effect is the same—an acute generalised tuberculosis.

A very considerable number of the cases of human tuberculosis, especially in young persons, revealed the presence of bacilli possessing all the characters of the bovine type, whilst the virulence of others was ascertained to be somewhere midway between the human and bovine types. Experiments were undertaken to determine if the latter were transitory forms between these two types, but it was demonstrated by plate cultivation and by the repeated re-inoculation of test animals that these were merely mixed infections. It is common knowledge that certain pathogenic organisms growing in living tissue or on artificial media are influenced by their environment, and after a longer or shorter time their characters and properties are changed. They may either gain or lose in virulence. The human and bovine tubercle bacilli, however, are very stable, and

their virulence has been found to be little impaired after prolonged sub-cultivation. There can therefore be no doubt that the tubercle bacilli found in man possessing the character of the *Typus Bovinus* are of bovine origin.

Of the 108 cases of human tuberculosis—other than lupus—investigated by the Commission, 84 yielded human tubercle bacilli only, 19 yielded bovine tubercle bacilli only, and 5 both bovine and human tubercle bacilli. By far the greater number of cases in which the bovine tubercle bacilli were present were in individuals affected with primary abdominal tuberculosis. Of the 29 cases of primary abdominal tuberculosis investigated, 14 yielded bovine tubercle bacilli, 13 human tubercle bacilli, and 2 a mixture of human and bovine tubercle bacilli. The ages of the patients in which the bovine tubercle bacilli were present were as follows:—ten were aged from 1 to 3 years, three from 4 to 5 years, and one 8 years. It will be noticed that the age period during which the greater number occurred in which the bovine tubercle bacilli were the exciting cause, synchronises with the period when milk forms the bulk of the diet.

It has been known for many years that milk drawn from a cow affected with tuberculosis of the udder contains a large number of virulent tubercle bacilli. The researches of the Commission and others show that it is possible for tubercle bacilli to be excreted in the milk without the udder itself being affected. Milk contaminated with tubercle bacilli is—if used for food—an undoubted menace to the health of the consumer.

In their second Report the Commissioners summarise the result of their enquiries as follows:—

"There can be no doubt but that, in a certain number of cases, the tuberculosis occurring in the human subject especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis; and there also can be no doubt that in the majority, at least, of these cases the bacillus is introduced through cows' milk. Cows' milk containing bovine tubercle bacilli is clearly a cause of tuberculosis, and of fatal tuberculosis, in man."

Their subsequent reports have tended to strengthen this conviction, and to-day the doubt raised by Koch as to the communicability of bovine tuberculosis to man has been completely dispelled. It cannot be too strongly emphasised that bovine tuberculosis is a disease communicable from animal to man and from animal to animal. This fact is of peculiar interest to veterinarians, for the duty will devolve on us of eradicating the disease among animals. The fight will be a stern one. It is impossible for economic reasons to accomplish the eradication of bovine tuberculosis by the application of tuberculin and the indiscriminate slaughter of all reacting animals. The process must of necessity be a gradual one. Our knowledge of the disease is such as to permit of energetic action along right lines. Is it not surprising that no action has been taken to eliminate all dangerously infected animals from our herds? The Board of Agriculture has taken no steps to control the disease among animals, nor have the Local Government Boards for England and Scotland done anything to protect mankind from the undoubted danger arising from the use as food of milk and its products infected with bovine tubercle bacilli. It is true that the Local Government Boards of England and Scotland amended the Dairies, Cowsheds, and Milkshops Order in 1899 providing *inter alia* that article 15 of the 1885 Order be altered so that the expressions therein which refer to diseases should include, in the case of a cow, such disease of the udder as shall be certified by a veterinary surgeon to be tubercular.

In the 1885 Order as so amended local authorities are only empowered to order* that the milk of such diseased cow:—

* In one instance the avian bacillus was found in a nodule in a mesenteric gland of a calf.

* As regards England the Order of 1885 as amended, is made applicable only to paragraphs (a) and (b).

- (a) shall not be mixed with other milk ;
- (b) shall not be sold or used for human food ; and
- (c) shall not be sold or used for food for swine, or other animals, unless and until it has been boiled.

It is left to the discretion of local authorities to put these Orders into operation, but allowing for the sake of argument that every local authority faithfully executed them to the full, even then one is forced to the conclusion that they are utterly inadequate to safeguard the public health. The apathy of the Government and the Government Departments to this matter is deplorable. It is even excusable under the circumstances to state that this failure on the part of the authorities to enforce efficient supervision of our milk supply amounts to criminal negligence, because four years have elapsed since the Commission reported that "Cows' milk containing bovine tubercle bacilli is clearly a cause of tuberculosis and of fatal tuberculosis in man. I believe that the majority of local authorities in Scotland have appointed veterinary surgeons under the Milkshops Order and under the Public Health (Scotland) Act, 1897. That is very satisfactory, but please do not probe too deeply into the matter. For instance, some local authorities give the veterinary surgeon a retaining fee of a few pounds, and in addition allow a fee for every animal they are called upon to inspect. It is a pity to rend the veil but duty demands it. Their appointment is a sinecure - they receive the retainer but nothing more, because they are never called upon to examine. No doubt the veterinary surgeons themselves are largely to blame for this discreditable condition of affairs. They ought to take every opportunity of emphasising the importance of the work, and to lay claim to their undoubted birthright of being recognised as the fit and proper persons to safeguard the health of man from animal diseases.

Mr. Watt, the indefatigable member for the College Division of Glasgow, elicited from the President of the Local Government Board for Scotland that the number of cows examined by Veterinary Surgeons, under Article 3 of the amended Order of 1899, in each of the years from 1900 to 1905 inclusive, and the number certified under said Article to be affected with tuberculosis of the udder, were as follows :-

Year.	Examined.	Affected.	Per Cent.
1900	20,076	54	268
1901	22,604	46	203
1902	26,382	40	151
1903	29,870	40	134
1904	29,305	37	126
1905	38,309	43	112

This table is of interest in that it shows a diminishing percentage of animals affected with tuberculosis of the udder. The percentage in 1900 was 268, but during the succeeding years it gradually diminished until, in 1905, it reached its lowest level, namely, 112 per cent. This appears satisfactory, in view of the inadequate powers possessed, and, if the statistics be accurate, shows what could be done to safeguard the public health by an examination of all milch cows by thoroughly qualified veterinary surgeons.

A comparison of the number of cows in Scotland with the number of cows examined under this Order shows that, whilst a few authorities are doing their utmost to prevent the sale of milk drawn from animals affected with tuberculosis of the udder, there are a great many other authorities who are doing absolutely nothing -- not even exercising the inadequate powers they possess, as will be seen from the subjoined figures :-

Year	Total Cows.	Examined.	Not examined.
1900	434,264	20,076	414,188
1901	433,981	22,604	411,377
1902	438,890	26,382	412,508
1903	437,418	29,870	407,548
1904	439,358	29,305	410,053
1905	437,138	38,309	398,829

Presuming that the proportion of affected cows among those not examined is in the same ratio as among those examined in 1900, when inspection commenced, then it follows that there were in

1900.	1901.	1902.	1903.	1904.	1905.
1,110	1,102	1,105	1,092	1,098	1,068

cows, which, though affected with tuberculosis of the udder, escaped detection owing to not having been examined by a veterinary surgeon, and were consequently permitted to yield milk for human consumption, to disseminate broadcast disease and death, and to bring grief and mourning into many a home.

The reply of the Secretary for Scotland to a further question by Mr. Watt was characteristic of the apathy of the Local Government Board, on whom, as the central authority, devolves the duty of controlling and directing the energy of the local authorities. Asked as to the manner in which the cows so certified were disposed of, the reply was, "I have no information as to how the cows certified were disposed of."

It must certainly be admitted that Local Authorities under the powers contained in the amended Order of 1899, are merely empowered to prevent the milk of a cow suffering from such disease from being sold or used for the food of man, or, unless boiled, for the food of swine and other animals. They have no power to slaughter the affected animal. This is a grave defect, and one patent to the merest tyro. A cow affected with tuberculosis of the udder is obviously an animal which is not -- and, indeed, can never be -- in fit condition to yield milk for human food, but, unfortunately, it may continue to do so for a considerable time.

The mere issue of a verbal or written instruction for the destruction of the milk of a cow so affected does not necessarily mean its faithful fulfilment by the dairyman. There is only one way to accomplish that end, and that is by the slaughter of the animal. There is no hardship in this. Such an animal is of no value for milking purposes, and the sooner it is destroyed the better for all concerned. Some farmers, when they become aware that a cow in their possession is affected with tuberculosis of the udder, cause the animal to be immediately slaughtered, but there are others who are willing to resort to any subterfuge to defeat the object of the Order. The owner frequently attempts to fatten such an animal, but this course is open to many serious objections, one being that the milk of this animal, teeming, it may be, with the organisms of tuberculosis need not be destroyed, but may be mixed with that of the herd and sold for human food. Again, a dairyman may and he is at liberty to do so -- dispose of the animal for a milk producer to his neighbour. The seller is under no compulsion to say in what manner he has disposed of the animal, and the buyer is not compelled to notify the authorities that he is in possession of a cow affected with a disease of the udder. Thus all the efforts of the authorities have been unavailing, and all that they have accomplished, if even that, is that one supply has been purified and, in the purification process, another contaminated.

It is therefore evident that the Dairies, Cowsheds, and Milkshops Order, as amended in 1899, does not afford that protection to human health and life that was anticipated, and we are therefore not surprised to find that, in 1903, certain milk clauses were included in the Burgh Police (Scotland) Act of that year. This Act, which, as its title denotes, applies only to burghs, with the exception of Edinburgh, Glasgow, Greenock, Dundee, and Aberdeen, provides that, "if the medical officer of health of the burgh has reason to believe that milk from any dairy, situate outside the burgh, from which milk is being sold, or suffered to be sold, or used within the burgh, is likely to cause tuberculosis to persons residing within the burgh," then he is to communicate with the local authority of the district in which such

dairy is situate, and it is for the officials of the latter district to take action. It is obvious that, before the burgh medical officer of health can do so, he must be convinced that the milk in question is likely to cause tuberculosis to consumers in his district, and this can only be determined in either of the following ways:— In the first place, he must obtain clinical evidence in the consumers of their having contracted tuberculosis through the use of milk contaminated with tubercle bacilli; but this, in the majority of cases, is impossible, owing to the length of time which ensues between consumption of the milk and manifestation of the signs of the disease, as also to the difficulty of eliminating all other sources of infection. What a travesty and burlesque of efficient administration, that we are empowered to take action against this national scourge only after it has been allowed irretrievably to fasten its fangs upon its helpless victims! In the second place, recourse may be had to animal inoculation, that is, taking samples of market milk and injecting small quantities into animals, such as guinea-pigs, but by this method a delay of several weeks must elapse before the result of the examination can be ascertained, and during all this time the milk is continuing to be sold, and it may be disseminating the seeds of disease and claiming numberless victims before the supply can be stopped.

The previous Royal Commission was compelled to direct attention to the continued prevalence of "tabes mesenterica" among the younger members of the community, regarding which they stated, as will be found on page 3, par. 2, that "the rate of mortality from tabes mesenterica—which more than any other represents tuberculosis in infancy—has signally failed to undergo any noteworthy diminution during the very period of sanitary progress which has been associated with such substantial diminution of death from tubercular affections at all ages in England and Wales, and (it must also be remembered) that this result has coincided in point of time with a large increase in the consumption of milk."

Confirmation of this result is also found in the late Sir Richard Thorne Thorne's "The Administrative Control of Tuberculosis," in the following striking excerpt from page 29, par 3:—

"... if we limit ourselves to the first year of life when milk is most largely used as a food... we find that the reduction in the rate of death from the various forms of tuberculosis—which reduction has been going on at 'all ages' for about half a century—not only disappears, but is actually transformed into a large increase, reaching no less than 27·7%. This in itself is grave enough, but its significance is still further emphasised when we remember what are the circumstances under which this increase in the rate of death from tabes mesenterica has gone on synchronously with a decrease in that from other forms of tuberculosis."

The "milk" clauses of the Burgh Police Act are also defective in that they do not compel the dairyman to notify *all* cases of udder disease, do not insist upon the examination of all the cows being carried out by veterinary surgeons, and do not empower the local authority to slaughter useless animals. They deal exclusively with tuberculosis of the udder, but do not refer to other forms of tubercular disease, and many other diseases, which may equally render milk dangerous and unfit for human food. They appear, indeed, to be modelled on the lines of Section 60 of the Public Health (Scotland) Act, 1897.

This section was framed to cope with milk-borne outbreaks of infectious disease, but tuberculosis is not comparable with such infectious diseases as scarlet fever, diphtheria, or typhoid, in which the incubation period is short and the disease soon manifests itself, whereas in tuberculosis there may be no evident signs of the disease for a long time.

It therefore follows that the procedure which is found adequate to cope with outbreaks of infectious disease proves utterly ineffective when adopted in the vain attempt to prevent the ravages of such an insidious disease as tuberculosis.

The question naturally arises:—"To what extent is man affected with bovine tuberculosis?" It is not one easy to answer. The statistics compiled by the Registrar General regarding tabes mesenterica cannot be regarded as reliable. These have been largely tabulated from death certificates granted by medical men on opinions formulated after clinical examination alone. Medical men admit that it is impossible to recognise during life many cases of abdominal tuberculosis. We are, therefore, forced to turn to other sources for the desired information.

Northmann, of the Clinic for Children in Düsseldorf, and six other investigators, employing tuberculin, found 53 to 94% of the children under 14 years of age to be affected with tuberculosis.

Comby has published reports showing that the post-mortem examination of children in the Paris hospitals revealed 38·5% to be tubercular.

Müller, in Munich, found 43% affected out of 500 post-mortem examinations.

Hamburger and Sluka discovered 41% affected in 401 autopsies on children under 15 years.

Investigations by Shennan, Still, Carr, and Guthrie, to determine the frequency of tuberculosis originating from the alimentary tract show that 28·1, 29·1, 16·7, and 24·6% respectively were affected.

It would be entirely misleading, however, to attribute all cases of tuberculosis in children to bovine origin.

Theobald Smith estimates that from 25 to 50% of the cases of human tuberculosis starting in the cervical and mesenteric glands are bovine in origin.

For the sake of argument let us assume that 50% of all children are affected in some degree with tuberculosis. Twenty-five per cent. of these are infected through the alimentary canal, and of those thus affected 25% are infected from bovine sources. In other words 31 out of every 1,000 children are infected with tuberculosis from bovine sources. No doubt these figures are alarming, but when we consider that of 8,050 samples of market milk examined during the years 1896 to 1911 by Delépine no less than 703 or 8·73% were infected with tubercle bacilli, one is forced to the conclusion that the number of children affected from bovine sources is no greater than one would expect.

The duty which must necessarily devolve on the veterinary profession cannot, however, be limited to the protection of man against the use as food of meat and milk affected with disease. A vigorous warfare must be waged against the transmission of the disease from animal to animal. This entails the slaughter of every animal affected with open tuberculosis, and in many cases improved housing accommodation. I will give but one instance to show the importance of preventive measures.

The Commissioners examined material obtained from 59 pigs. The results obtained are as follows:

Degree of tuberculosis in the pig	Bovine Virus	Human Virus	Avian Virus	Mixed Virus and bovine	avian TL.
Local	18	3	5	—	26
General	32	—	—	1	33
	50	3	5	1	59

The cases of infection by the bovine tubercle bacillus were by far the most numerous—50 cases out of 59.

The number of pigs in Scotland in June, 1909, is given in the Board of Agriculture returns as 129,819, and during that year 5·1% of the pigs slaughtered in the Glasgow abattoirs were found affected with tuberculosis. As pigs are consigned from all parts of Scotland to the

Glasgow market this percentage may be taken as applicable for the whole country. A simple calculation shows that there were 6620 tubercular pigs, and of these 5610 were infected with bovine tubercle bacilli.

The Commission on Tuberculosis which reported in 1898 recommended that "in view of the greater tendency to generalisation of tuberculosis in the pig, we consider that the presence of tubercular deposit in any degree should involve seizure of the whole carcase and of the organs."

If this recommendation, which has received the imprimatur of the Local Government Boards for England and Scotland, be taken as the standard for the adjudication of the carcasses of those pigs infected with bovine tubercle bacilli, it follows that all ought to be seized and destroyed as unfit for human food. Now, assume that each carcase is of the average value of £3 it follows that the pecuniary loss to the pig industry in Scotland would be £16,830—surely a sufficient incentive for the enforcement of stringent preventive measures, apart altogether from the greater necessity of protecting human life against such a fell disease.

What steps ought to be taken to safeguard the public health against this undoubted danger? The existing legislation lays the onus of carrying the present powers into effect on the different local authorities. It is deplorable that the authorities have been remiss in this all-important duty. In 1906, of 107 landward and 250 burghal local authorities in Scotland, only 82 landward and 139 burghal local authorities had exercised their powers contained in the Dairies, Cowsheds, and Milkshops Order and had framed regulations:—

- (a) For the inspection of cattle in dairies,
- (b) For prescribing and regulating the lighting, ventilation, cleansing, drainage, and water supply of dairies and cowsheds in the occupation of persons following the trade of cowkeepers and dairymen.
- (c) For securing the cleanliness of milk stores, milk shops, and milk vessels used for containing milk for sale by such persons.
- (d) For prescribing precautions to be taken by purveyors of milk and persons selling milk by retail against infection or contamination.

The mere issue of regulations does not mean their efficient enforcement. I know of dairy premises in rural districts which are only visited at long intervals. I impute no blame to the officials, because, owing to their multifarious duties, it is impossible to overtake the work in the manner commensurate with its importance. Another factor which must always be borne in mind is that the majority of the members constituting county councils are directly or indirectly interested in agriculture. It is therefore advisable under certain circumstances for the official to temper his zeal with discretion.

The result is that chaos reigns supreme.

In my opinion the importance of a pure, wholesome milk supply is much too great to continue to perpetuate the unsatisfactory present régime. A pure, wholesome milk supply is of national importance, and therefore a national service ought to promote and maintain its purity. It is a question bristling with difficulties. A solution satisfactory to producer, vender, and consumer will only be possible after the whole "pros and cons" have been carefully and dispassionately considered. The report of the Royal Commission on Tuberculosis shows that man incurs grave danger in contracting the disease through the consumption of milk and its products infected with virulent tubercle bacilli. This is but one impurity rendering milk and its products dangerous and injurious to the health of man. I would suggest that in order to determine the best means of promoting and maintaining a pure milk supply, the Government, through the Secretary for Scotland, be asked to appoint a Commission composed of agriculturists, representatives of local authorities, town and county clerks, medical

and veterinary officers, and sanitary inspectors, to consider the whole question, and draft a Bill which would have for its object the protection of the public health and the eradication of all animal diseases communicable to man through the milk supply.

IODINE AS THE SOLE DRESSING FOR OPERATION WOUNDS.

Address by REGINALD ALCOCK, M.B., F.R.C.S. (EDIN.), at a meeting of the Staffordshire Branch of the B.M.A.

Medical opinion concerning the utility of iodine as an agent in the production of asepsis has oscillated between contemptuous neglect and unqualified praise. At the present time its virtues are recognised on every hand, and its exceptional usefulness as a skin sterilisant needs no further emphasis, but reliance on its extended efficacy as the sole dressing to be applied to the operation wound from the date of the operation to the discharge of the case, is, I venture to think, a new departure.

This paper is based on the successful results of 31 cases treated by such a method, which, shorn of details, may be summed up as the treatment of the operation area by tincture of iodine, applied at intervals for the first few days, the incision being left exposed to the air, and only covered by the patient's night clothes.

My acquaintance with the use of iodine as the sole dressing for operation wounds dates back to 30 years ago, when I first remember seeing the practice of my father, who, besides being a hospital surgeon, was also public vaccinator, and it is vividly impressed on my mind that when the children came to have their arms inspected on the week following the vaccination, each arm which showed any sign of redness was painted over with a strong solution of iodine, and simply allowed to dry. This was invariably successful in preventing any spread of the cellulitis.

The first time I noticed iodine being used for the preparation and preservation of catgut was in America in 1907, whilst I saw it used for the sterilisation of the skin of the abdomen in the gynaecological clinic in Vienna in 1908, and this method I adopted on my return.

Last year, immediately after my visit to the annual meeting of the British Medical Association in Birmingham to hear the discussion on the technique of wound treatment, it occurred to me, Why use dressings except iodine to operation wounds, and what is their use? and the more I thought of it the less reason I could see for them in suitable cases, and I at once proceeded to put the idea into practice.

Looking through the literature relating to the sterilisation of the skin, I have been struck with the fact that special stress is laid upon the difficulty experienced in rendering the deeper layers of the skin sterile, and especially with the fact that any moisture of the skin means the detection of bacteria, where previously they were absent, if attempts had previously been made to discover them on a dry skin.

Although this stress is laid upon the action of moisture in macerating the epidermis and letting free the various micro-organisms, in no case does one find any special attention paid to the hair follicles, sweat and sebaceous glands, as possibly being the most important home of these microbes. Norman Walker, in his book on dermatology, says:

"While the sebaceous gland opens with a distinct mouth, either on the surface or into a hair follicle, the sweat duct terminates in the germinal layer. From this point a channel may be traced between the cells of the epidermis, where the sweat communicates freely with the interepithelial lymph, and the duct appears in the well-known corkscrew form in the horny layer."

These so-called sweat or coil glands, according to Unna, are not only concerned with the excretion of a watery fluid, but also in the lumina is a considerable amount of fat; and the fact that the palm of the hand, where, if anywhere, perfect lubrication of the skin is required, contains no other glands but the coil glands is a strong piece of clinical evidence bearing on the character of their excretion.

That these sweat glands play an important part in giving a resting place for these microbes probably explains the difficulty experienced in sterilising the hands, as the palm of the hand contains no other glands except these sweat glands winding intricately through the epidermis.

What Mr. Leedham-Green tells us about the position of the microbes on the skin is also of interest. He says that we may expect to find them wherever fine molecular dirt can penetrate, but not deeper than that, and that we meet them not only on the surface of the cuticle, but between the cells of the superficial layers of the epidermis, and in the entrance of the sweat glands, sebaceous ducts, and hair follicles.

In the North Staffordshire Infirmary we have two preparations of iodine in use—the one for ligatures consists of 1 part of *B.P.* tincture with 15 parts of 60 per cent. alcohol, and the other for application to the skin and wounds consists of 2 per cent. of iodine with 90 per cent. industrial methylated spirit.

This industrial methylated spirit has been used for some little time, and has proved perfectly satisfactory, and from a hospital economical point of view it is of great advantage, as it costs only 2s. a gallon as compared with the 26s. a gallon paid for rectified spirit. It contains only 5 per cent. of impurities in the form of wood-naphtha, as compared with the 10 to 15 per cent. of impurities in ordinary methylated spirit. It also has the great advantage that it does not cause any smarting of the eyes or other unpleasant effects.

The effects of the application of iodine to the skin is, first of all, destruction of the microbes of the surface, and, for a very short distance, by its penetrative powers, of those embedded in the very superficial layers of the skin. Probably as equally important an effect is the locking-up of the micro-organisms in the sweat glands by its hardening action on the skin and the simultaneous contraction of the mouths of the glands.

Haegler noted that the microbes do not penetrate deeply anywhere, either between the cells, or in the sweat or sebaceous glands, but I would suggest (and it is on this suggestion that I base my treatment) that their penetration is deeper in the sweat glands than in the layers of the skin.

Mr. J. M. Graham has shown that iodine penetrates more deeply into the pores of the skin when there has been no preliminary washings, and the freer the skin is from moisture and grease, the more efficient is the action of the iodine.

Objection to the use of iodine has been made on the ground that it causes eczema in children and old people, but the usual experience is that it only causes this phenomenon when the iodine dressing has been covered with gauze or wool, and not when left exposed to the atmosphere, unless it is applied very frequently.

Asepticity of the skin is probably impossible of attainment, but it is quite possible to inhibit the growth of bacteria until the wound itself has become sufficiently resistant.

Our aim in the treatment of a wound is to let it be hermetically sealed against the entrance of outside organisms by its own dried secreted serum, and then to render this sterile to growth of the bacteria, if they should escape from the infected sweat glands.

There is a great probability that tincture of iodine owes a great part of its therapeutic action to the hyperæ-

mia it induces—like the Bier treatment—causing a phagocytosis or intracellular destruction of micro-organisms in the neighbourhood of the wound, as seen in cellulitis, erysipelas, etc., and also on account of the increased flow of blood to the part, causing a more rapid union of the cut edges.

In emergency cases there is no preliminary washing, which would not only macerate the epidermis, but also open the pores of the skin; therefore the area is only dry-shaved, rubbed over with ether, and iodine painted on, which serves to kill the bacteria on the surface and lock up the rest.

The following precautions are considered essential for success: Perfect asepsis is to be observed during the operation. All bleeding points are to be stopped, and the wound rendered quite dry. All abdominal and deep wounds are to be sewn up in layers; peritoneum, muscle fibres, sheaths, and skin to be united separately to give the necessary support. Care is to be especially taken in skin apposition.

No wet swabs are to be used, in order that the skin may be kept dry, and only that blood is to be cleared away which adheres either to a plain dry swab or is removed by the iodine-containing swab when applying it to the stitched-up wound.

Iodine is to be applied immediately after operation, and again three hours afterwards, to render sterile any serum of blood which may possibly have oozed out. The wound is again painted over daily for the next three days only, except in cases involving wounds about the perineum, as the sweat glands in this region are so numerous; in addition, the wound is painted over with iodine every time after urine has been passed.

The method is, of course, only applicable to those cases in which the wound can be completely closed up, and can in no case be used where a drain of any kind is necessary. In all operations where support is afterwards necessary, it cannot be used, as in amputations, excisions, etc.

All the cases treated by this method have given excellent results, not even a stitch abscess having been observed.

I feel that this is a somewhat revolutionary practice in the treatment of wounds, after being used to the elaborate mass of sterilised gauze, wool, and Gamgee tissue which one has been in the habit of applying, and amongst my immediate friends the method was at first received very sceptically, dire consequences being prophesied. I am pleased to say that it is now being adopted by some of my colleagues with the same encouraging results.—*B.M.J.*

A Danger from Iodine.

Propping acknowledges the sterilising properties of tincture of iodine, but utters a word of warning in the *Zentralblatt, für Chirurgie* about its use in abdominal surgery, basing his statements on the results of his own clinical experience, in cases of appendicitis. Animal experimentation has shown the facility with which the tissues take up iodine. Twenty minims of tincture of iodine in physiological salt solution injected into the peritoneal cavity of a dog are sufficient to produce fibrinous adhesions between all the organs. He states, therefore, that tincture of iodine is dangerous for the peritoneum and for the intestines. If this drug be used to disinfect the abdominal skin, sterile dressings should always be interposed between the skin and the bowel drawn out from the wound and wrapped in a sufficient thickness of dressings which have been wrung out in a warm solution of sodium chloride.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Feb. 3	30		36				1	2	125	251	14	73	723
Corresponding week in	1911		26				5	6			28	31	252
	1910	24		31			7	16			22	20	199
	1909		24	25			14	25			51	26	198
Total for 5 weeks, 1912	122		137				14	35	744	1994	77	302	3263
Corresponding period in	1911	109	122				23	69			151	172	1775
	1910		152	183			32	98			160	102	690
	1909		139	175			45	96			190	158	1043

* Counties affected, animals attacked: London 2,

Board of Agriculture and Fisheries, Feb. 6, 1912.

		Outbreaks											
IRELAND.	Week ended Feb. 3	...	...	...	...	...	...	...	3	25	2	8	
Corresponding Week in	1911	...	1	1	...	...	...	...	3	20	2	4	
	1910	...	...	...	...	...	...	...	1	17	3	73	
	1909	...	...	...	...	...	...	...	3	13	...	...
Total for 5 weeks, 1912	...	1	1	...	...	...	...	...	11	111	13	154	
Corresponding period in	1911	...	2	2	...	...	...	...	11	116	19	285	
	1910	...	2	2	...	...	...	...	13	117	5	156	
	1909	...	1	1	...	...	...	...	12	85	3	12	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 5, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Donations to R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donations to the College funds, from

Mr. J. Clarkson, Garforth, nr. Leeds £1 1 0
Amount previously acknowledged 5 5 0

Grant to Dick Veterinary College.

At a special meeting of Midlothian County Council, held in Edinburgh, a deputation from the Board of the Royal (Dick) Veterinary College attended for the purpose of soliciting financial aid towards the completion of the new College buildings. The Board are still almost £5,000 short of the necessary amount in order to secure the £8,000 conditionally promised by Mr. A. Inglis MacCallum, a member of the Board, as well as a further sum of £5,000 from the Education Department.

Mr. MacCallum said that two chairs in the College were now endowed—namely Pathology and Bacteriology, and Physiology, and the relations of the College with the University of Edinburgh had been drawn closer by the appointment of their teacher of anatomy as a University lecturer on comparative anatomy. Moreover, their students were now eligible to present themselves for the University degrees of Bachelor and Doctor of Science in Veterinary Science. The relationship of veterinary science to public health was of the closest nature, as was abundantly shown by the final report of the Tuberculosis Commission. It was desired to so equip the College that its functions might be adequately and satisfactorily performed.

Mr. Martin, in thanking the Council for receiving the deputation, appealed on behalf of the farmers of the neighbourhood, as well as the College, for a liberal donation.

Dr. Bradley said what they wanted to-day was to pro-

duce a body of men with a sound practical training—trained in the sense that they had done things themselves. Lecture rooms nowadays had to take a second place to laboratories and clinical wards, and they wanted a greater and wider accommodation and equipment for actual practical teaching.

It was agreed that a grant be given.

Mr. James Cormack, Colinton, proposed that the sum be £600, to be spread over three years—£200 per year.

Mr. A. T. S. Scott, Crosswoodhill, moved that they give a donation of £300.

Ten voted to give £600 spread over three years, and nine to give a sum of £300 down, the former being accordingly carried.—N. B. A.

REVIEW.

SHEEP AND GOATS.—By G. MAYALL, M.R.C.V.S. With 35 plates and 18 figures in the text. Pp. x + 126. Price 3 6 net. Baillière, Tindall and Cox, 8 Henrietta Street, Covent Garden, London, W.C.

This small volume is intended as a companion to the two similar ones, dealing respectively with cows and pigs, which the same author has produced recently. Those who have read either of the first two will have a good idea of the size, scope, and method of treatment of the present third publication.

The two animals it concerns are dealt with in separate sections, overlapping being avoided, in the second section referring to the goat, by frequent references back to advice given upon the sheep in the first section. With regard to both animals alike, the work may be very briefly summarised. It is a succinct and elementary guide to the breeds, breeding, rearing, feeding, and general management in health and disease, of sheep and goats, written throughout with extreme simplicity, and especially adapted to the needs of the small holder or

cottage farmer. From this it follows that the book contains nothing that will enlighten either the veterinarian or the really skilled agriculturist; it is intended for a different class of readers, to whom it will be very useful. Many men already do a little amateur stock keeping as an adjunct to their incomes, and many more might do so with profit. This series of popular handbooks will tend both to increase the practice and to improve the methods of its performance.

W. R. C.

About Degrees and Diplomas.

The Medical Council is charged with the duty of supervising the separate examining corporations, and of insisting upon such a standard of stringency as may be deemed necessary. The duty thus imposed by the State is really a tacit recognition of the principle of one uniform portal to the medical profession, though, with the usual British love of half-measures, it is not pushed to its logical conclusion—State examinations for all medical students of the United Kingdom. The number of bodies which are competent to grant a registrable qualification is fairly large; and it is in respect of their various distinguishing titles that the public very naturally gets so often confused.

Many schemes have been propounded at different times by would-be reformers of the present makeshift system, but none has been within measurable distance of adoption. One reason for this is doubtless that examinations and the titular distinctions which depend on them are of less importance in the eyes of the general public than tact, clinical acumen, and experience. A man may have passed with the highest possible distinction those examinations which are the best esteemed by the laity (and professional colleagues); but if he be a mere bookworm or have a tactless manner, he will take second place to a man less capable of outwitting an examiner but more conversant with human nature and everyday problems of disease. Examinations, in fact, are no test at all of common-sense, without which no doctor is worth his salt.

At the same time, degrees and diplomas are very far from negligible. They are of the most vital importance whenever there is any public post or office to be filled by competition. Here they have very often an altogether fictitious and exaggerated value, because they are in many cases the only criterion which a non-medical selection committee possesses of discriminating between one candidate and another. Let no student, therefore, imagine that one qualification will be as good to him as another; for he never knows when he may have to submit those he possesses to the scrutiny of men who have no means of assessing those real signs of efficiency which could be taken into account by his professional brethren.

Further, there are certain examinations which are earmarked, as it were, for special purposes; and as such have a special value. The best example is the Diploma in Public Health (D.P.H.), which is now indispensable for anyone who aspires to whole-time employment in the organised sanitary service of the community. Yet the D.P.H. is not of itself a registrable qualification.

There are signs which indicate the future possible extension of the system initiated in connection with public health. At the University of Oxford a Diploma in Ophthalmology (D.O.) was instituted a year or two ago; so, too, in tropical medicine special tests of attainment have been created by several of the educational authorities; and the D.T.M. is tacitly recognised by the Colonial Office.—*The Hospital*.

Personal.

SWANSTON.—On the 30th January, at Lucknow, the wife of Capt. Nelson Swanston, A.V.C., of a daughter.

Mr. JAMES HOPE PRIMMER, M.R.C.V.S., who had established what is regarded as a lucrative practice in Dunfermline has received an important appointment under the New Zealand Government. A son of the Rev. Jacob Primmer, the well known and aggressive ecclesiastic, Mr. Primmer inherits the hard-working qualities of his father, and during his short professional career in the west of Fife has made many warm friendships among the farming classes and the general community. At present he is in Germany, where he is further equipping himself for his new duties.—*N. B. A.*

Obituary

HANKS.—Victoria Sophia Clementina, the beloved wife of Frederick William Hanks, of "Eskdale," Wantage, who passed away Feb. 3rd, aged 57 years.

CORRESPONDENCE.

POLYMYOSITIS METASTATICA.

Sir,

In *The Veterinary Record* for February 3rd I was interested to read an extract from the *Berliner Tier. Woch.* on the above disease.

About twelve months ago I was shown an old English sheep dog which exhibited precisely similar symptoms, viz., partial paralysis and localised myositis; moreover the paralysis was most marked shortly after copulation. I suggested that the prostate glands be removed, and a course of nerve tonics be given, but within a few days the owner left the district, and the case was lost sight of.

I should think that this disease is not so rare in the lower animals as is generally supposed, and if our professional brethren who are largely engaged in canine practice would record the most notable of their countless valuable observations, this disease would take its place in our manuals on surgery as a definite condition.

L. L. STEELE.

Beckermest, Cumberland.

CRUELTY PROSECUTION IN GLASGOW.

Sir,

I am not surprised that the two Glasgow veterinary surgeons whom I named in my letter to you a fortnight ago (and whose names you omitted to publish) have made no attempt at replying. I hardly expected that they would enter into a controversy with me. And yet, why shouldn't they? Perhaps they don't read *The Veterinary Record*—but that is unthinkable: everybody reads *The Record*. Is their silence the result of regardful contemplation of their own dignity? Yes, I think it must be their dignity; or can it possibly be that they are afraid? Surely not that! They would have every advantage in a discussion. They are two against one ("two minds with but a single thought"—if you had read their certificates, Mr. Editor, you would appreciate the aptness of the quotation). They are men of honours and experience: I am guilty of the crime of being young. Why should they hesitate to give their views for my criticism? Under the covering wing of the R.S.P.C.A. they found it an easy matter to annihilate me in the J.P. Court, when I had practically no opportunity of replying. Dignity is a poor excuse for shirking a discussion, and I am driven to conclude that they entertain serious doubts of their ability to emerge successfully from an encounter with me now that they are removed outwith the pale of that "Divinity that doth hedge" the R.S.P.C.A.

Perhaps you will consider, sir, that this is a petty quarrel, but my view of the matter (and I hold to it strongly) is that my work in this case was condemned as a result of grossly mistaken diagnosis on the part of the two veterinary surgeons for the prosecution. I think I am entitled to have a kick like the others.—Yours faithfully,

DONALD CAMPBELL.

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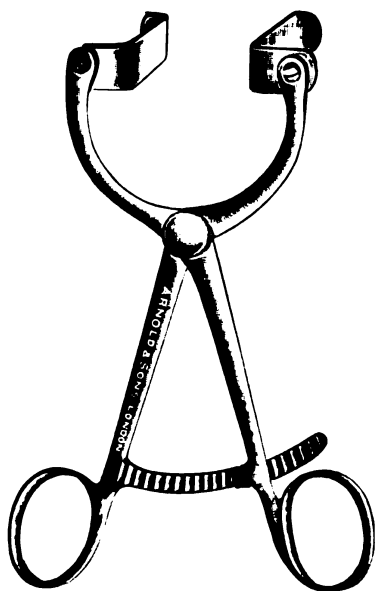
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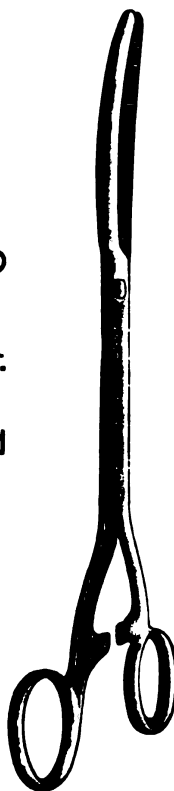


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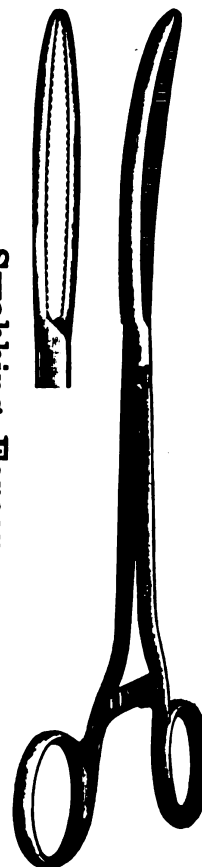


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The latest date on which applications for the post can be received is February 29th, 1912.

Midland Counties V.M.A.

THE Annual Meeting will be held at The Grand Hotel Birmingham, on Friday, February 23rd, at Two p.m. The President, H. L. Pemberton, Esq. in the chair. Agenda. Routine business: Election of Officers. Dr. O. Charnock Bradley, M.D., B.Sc., M.R.C.V.S. Principal of the Royal (Dick) Veterinary College, Edinburgh, will read a paper on "Hereditry." Dinner at 5 o'clock.

H. J. DAWES, Hon. Sec.

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UNQUALIFIED man wishes situation as assistant, or locum, town or country. Age 29, unmarried, steady and sober, life experience. Excellent references. Address, 7302 V.R., 20 Fulham Road, London, S.W.

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THE LATE LORD LISTER.

Probably every veterinary or medical weekly journal published to-day throughout the world is paying its tribute of homage to the great healer we have just lost. Our own is a short one, for two reasons. So much has been written during the last few days upon Lister's life-work, and much of it has been written so well, that it is difficult to add to what has already been said. And certainly, to those able to comprehend the magnitude of Lister's achievements, it seems impossible for any pen to do justice to the man and his work.

The story of the rise and progress of Listerian surgery has passed from scientific history into common knowledge. The man in the street knows how Lister sought for many years to combat the ghastly hospital mortality of his youth, how he perceived the bearing of Pasteur's work upon the problem, and how, the principle once grasped, he worked out his methods through all necessary modifications of detail to the triumphant conclusion. That he owed something to the French *savant* in no way detracts from the merit of his own work, but rather increases it. Few of the expert operating surgeons of those days had either the breadth of view to appreciate the possibilities arising from Pasteur's discoveries, or the practical chemical and microscopical knowledge necessary for their application to surgery. Fewer still, perhaps, possessed the steadfast purpose which enabled Lister to follow an untrodden road for years in the face of doubt and opposition. The fact is that Pasteur's early work on micro-organisms opened up a host of such untrodden roads, some of which Pasteur himself could never hope to follow. One was surgery, which Lister, by his temperament and early scientific studies, no less than by his professional opportunities and experience, was peculiarly fitted to take up. He did so, and lived to be recognised as the world's pioneer.

It has often been truly said that the benefits Lister conferred upon the world are incalculable. But we may and that they did not stop short at surgery. Apart from the many serious operations which have become trivial, and the many operations which have only become possible at all, under Listerian methods, it must be remembered that those methods have penetrated into medicine and sanitary science. Modern prophylaxis owes almost as much to Lister's work as does surgery.

No one can guess the number of lives saved, or the amount of suffering averted, by the work of this one man. But we all know that the recent descriptions of him as the greatest medical benefactor the human race has ever possessed are no more than the truth.

Remembering the stupendous benefits he gave to the world, it is good to think that everything personally known of the man himself was much more than favourable. The world has owed much, directly and indirectly, to men whose motives and characters were largely ignoble. Science has owed much to men whose lives held little of the altruistic ideal. Lister was not of these. It was typical of his character that his sole motive in taking up his epoch-making work was the desire to lessen the death and suffering in the hospitals of those days, the constant sight of which would have hardened a man of coarser fibre. It was characteristic of him, also, that in his later years he seemed to think the success of the work itself to be his best reward.

We ought long ago to have enrolled Lister as an Honorary Associate of the R.C.V.S. We never did; but the Council, meeting a few years ago upon his birthday, sent their congratulations. A cordial reply was received, and is preserved in the College archives. In it the veteran acknowledged having received great assistance in his work from veterinary surgeons; but veterinary surgeons, all the world over, will reverence his memory as that of one of their greatest teachers.

THE DIAGNOSIS AND TREATMENT OF PLEURISY.

Marchal and Séjournant, in the course of an outbreak of equine pleuro-pneumonia, had the opportunity of testing certain diagnostic and therapeutic measures which are already customary in human medicine. They now record (*Bulletin de la Soc. Cent. de Méd. Vét., Recueil*) their results.

The authors tested the "signe du sou" or "Zeichen des Geldstücks" (= sign of the coin) diagnostic method of Prof. Pitres. This is carried out as follows. An assistant lays a ten-centime piece upon the thorax between two ribs, and strikes it with the edge of another ten-centime piece, while the veterinarian or medical man auscultates the thorax at a place opposite to that percussed. So long as the percussion goes on at a healthy region, the ear receives the sound in an accentuated form, in consequence of the resonance of the thorax. On a hepatized area, on the other hand, the resonance is dulled, as if the sound penetrated through a layer of plaster. When the percussion is carried out upon an exudate, however slight this may be, the sound is delayed, is clearer, and has a metallic ring, like that produced by striking a half-empty cask. This is explained by the fact that the conduction of sound through fluids, while it certainly takes place more slowly than that through gases,

does so more completely than the latter. The alteration of the sound is especially marked in the region lying closely over the level of the exudate.

Therapeutically, the authors have made very successful use of a method hitherto little practised in veterinary medicine. They advise thoracentesis as early as possible and the withdrawal of only a small quantity of the pleuritic exudate. The fluid withdrawn from the thorax is immediately injected subcutaneously. The authors find that small doses of the fluid are more active than large ones, and they have been accustomed to inject from 25 to 50 grammes (= approx 5-6ths. to 10-6ths. oz.)

This treatment causes a speedy reduction of the fever and a rapid resorption by the induction of a crisis of urination. Along with it, the authors endeavour to assist the organism in its reaction by generally stimulating, heart-strengthening and diuretic, but not irritating means. They have employed caffeine and camphor in large doses, injected intra-muscularly.

During the outbreak in question eighteen horses were affected with pleuro-pneumonia. Only the first one died; and this was *before* the application of the method of treatment described above.—(*Berliner Tier. Woch.*)

[This "sign of the coin" diagnostic method should be compared with the tracheal percussion of Smith and Schindelka.—*Transl.*]

HÆMORRHAGE INTO A GUTTURAL POUCH WITH MORTAL SEQUEL.

Wester records (*Tydschr. v. Veeartsenijkunde*) the case of a racehorse which, while at exercise, fell against an obstacle. He contracted a small wound on the inside of the right eye and showed slight nasal hæmorrhage. Six weeks later, he appeared absolutely normal. However, at the end of that time, a violent nasal hæmorrhage appeared; and, fifteen days later, this was repeated with the same intensity, especially upon the left side.

The animal was then brought to the Utrecht Veterinary School. His temperature was found to be normal; but the pulse was 72 to the minute, and was intermittent. It remained intermittent after light trotting exercise; but the number of pulsations then rose from 72 to 100 per minute. The appetite was normal, but the respirations counted 44 to the minute. The author believed the case to be one of cardiac hypertrophy, induced by overtraining.

At the end of six days, all the symptoms had improved so much that the horse showed little that was abnormal.

Eight o'clock on the night of the sixth day, however, the animal became nervous; the pulse rose to 96 per minute, and was irregular; the respirations were 40 per minute; while the temperature remained normal. Two hours later, a violent hæmorrhage set in from the mouth.

The next day, Wester found considerable engorgement of the throat and head. Marked dysphagia was present, and also dyspnea. The temperature was now 103.1 F., and the pulse 60 per minute. Tracheotomy was performed immediately,

and a large quantity of water was seen to flow from the tracheotomy tube. This had been drunk by the horse, and had passed into the larynx without its passage provoking any reaction.

Next day, the engorgement of the throat and the general temperature had diminished, but the dysphagia remained unabated. The treatment applied was the subcutaneous administration of stimulants, and rectal feeding with milk. At the end of five days, the horse succeeded in swallowing a few oats, but a little water still continued to flow away from the tracheotomy tube when he drank. The heart's action had now become calmer and stronger.

The improvement only lasted for two days, at the end of which time the dyspnea again became intense. Manual exploration of the pharyngeal and laryngeal regions revealed nothing abnormal. The animal lost flesh progressively, and finally died from "pneumonia caused by foreign bodies."

Post-mortem, a diffuse inflammation of the larynx was found; but the pharynx was normal. The left guttural pouch, which was considerably dilated, contained a large blood clot. In the region of the superior angle of the pouch, the author clearly perceived a ruptured artery obliterated by a small clot of recent formation. It is probable that the hæmorrhage into the guttural pouch had been the starting point of all the morbid symptoms. The dyspneic troubles probably, should be attributed to a paralysis of the pharynx; and it may be presumed that the insensibility of the larynx betrayed a similar condition of the laryngeal nerves.—(*Annales de Méd. Vét.*)

FOOT-AND-MOUTH DISEASE IN HORSES.

It is known that horses possess a certain amount of receptivity to foot-and-mouth disease, although the cases of its transmission to them are very rare. Recently De Jong has observed an instance of such transmission to them, which he now records (*Tydschr. v. Veeartsenijkunde*). On the 15th of July last, three foals which had been weaned a few days before were placed in a field occupied by cattle affected with foot-and-mouth disease. Five days later, the foals showed the first symptoms of the disease, viz., difficult prehension of food, and salivation. The author, however, did not observe the special sound which affected cattle produce when chewing. The buccal mucous membrane showed aphthæ—some intact and others burst—at different points.

On the 30th of July, one of the foals still shewed salivation, and traces of vesicles were still clearly apparent upon the tongue and in other portions of the mucous membrane. Lesions upon other parts of the body, notably upon the feet, did not exist.

This case proves that it is quite wrong, in dealing with epizootics of foot-and-mouth disease, to confine the preventive regulations to ruminants and pigs.—(*Annales de Méd. Vét.*) W. R. C.

BLEEDING IN HÆMOGLOBINURIA.

Wysmann is convinced that that bleeding is one of the best methods of treating hæmo-globinuria, because the alterations it produces in the larger

yessels are quickly transferred to the circulation in the peripheral vessels.

In acute cases one always notices the marked alteration in the pulse and the rapid painful breathing, which conditions are at once relieved by bleeding, and this relief is not merely mechanical, but a quantity of toxic products are removed.

Bleeding also induces activity in the secretion of urine and favours the indirect elimination of waste products much more rapidly than can be done by drugs, this has been physiologically demonstrated by Von Hoesslin. It is also probable in haemoglobinuria that bleeding has a direct stimulating action on the haematopoietic organs, the medulla of the bones and spleen.

Of 43 of Wismann's cases, 37 occurred during spring and 6 in summer, so he concludes that although cold may be a predisposing it is not an essential factor.

Four to eight litres of blood were taken from the jugular. In 10 cases the horses were off their legs, 7 of these died. Of 33 bled before they went down only one died.—(Schweiz. Arch.)

GRANULAR VAGINITIS.

Nopisch recommends surgical treatment for granular vaginitis. Scraping the roots of the growth and washing with sublimate 1:2000, he gets cures within three or four days. (Berliner Tier. Woch.)

E. E. P.

AS TO THE NATURE OF THE PARASITES OF LEPROSY AND TUBERCULOSIS. By ALEXANDER G. R. FOULERTON, F.R.C.S., Lecturer on Bacteriology and on Public Health to the Middlesex Hospital Medical School.

In a recent communication Dr. Bayon, criticising an opinion expressed by Beauchamp Williams to the effect that "leprosy may be caused by, perhaps, several varieties of a highly pleomorphic streptothrix," remarks that "to suit Williams' view it"—that is to say, the parasite of leprosy—"would have to be an actinomyces also." As a matter of fact the generic terms, *Streptothrix* and *Actinomyces*, and *Cospora* and *Nocardia* also, are synonymous. The first of them is used by British pathologists generally, German pathologists appear to prefer usually the second, and the other two are in common use by French pathologists. A fifth generic synonym, *Cladothrix*, has fortunately fallen out of use. Consequently, the terms *Streptothrix* and *Actinomyces* are applicable equally as the generic designation of the parasite of leprosy. For there cannot be any reasonable doubt but that the parasites which Hansen identified in the tissues of lepers and described as *Bacillus leprae*, which Deycke was apparently the first to demonstrate in culture from leprosy lesions, which Rost first succeeded in growing freely on artificial media, which Williams subsequently studied in full detail, and which have been isolated during the last year or two by a considerable number of bacteriologists, all belong to one and the same species (*Streptothrix leprae*) of "ray fungus" or streptothrix.

I have seen only stained cover-glass preparations of the acid-fast, and morphologically typical, streptothrix which Deycke obtained from cases of leprosy. But by the courtesy of Beauchamp Williams I have had opportunities of examining three strains of the organism which he has isolated from cases of leprosy occurring in

Persia and India, and two strains of an identical organism which had been isolated by Rost.

It is certain that these latter parasites belong to a single species which, under certain conditions of culture on artificial media, presents a number of acid-fast rod forms which are identical with the acid-fast forms recognisable in leprosy granulomata. And it is evident, I think, that this parasite is that which Deycke described under the name of *Streptothrix leproides*. Deycke, however, appears to have hesitated at first to accept as the essential parasite of leprosy a micro-organism which, being a streptothrix, did not conform in growth on artificial media with the then accepted morphology of Hansen's *Bacillus leprae*. Kedrowsky also recognised streptothrix forms in cultures of an organism which he isolated from a case of leprosy.

A review of modern literature concerning the parasite of leprosy shows that confusion as to the proper place in botanical classification of the specific infecting organism has been caused partly by the multiplicity of nomenclature already referred to, and partly by failure to connect the varying morphological phases of streptothrix generally at different stages of their life-cycle. This matter was dealt with fully in the Milroy Lectures for 1910, and need not be referred to again, except very briefly.

The type-form of the genus *Streptothrix* is represented by the tangled masses of branching mycelium found in pus when suppuration has occurred in cases of streptothrixosis. Similar tufts of branching mycelium, the branching being lateral and not dichotomous, can be demonstrated nearly always in young cultures of streptothrix in broth. The typically mycelial stage in the growth of the parasite is succeeded successively by stages of "segmentation" and "fragmentation." Rod-shaped, bacilli-like segments become differentiated along the length of the mycelial threads. Degeneration of intervening segments of the mycelium occurs with, or very soon after, the segmentation—so that, when fragmentation follows, the original tuft of branching mycelium is replaced by a confused aggregation of bacillary forms, some of which are long and thread-like, whilst others may appear as short bacillary or spirillar forms. The occurrence meanwhile of "chain sporulation" complicates the morphological picture. In cultures on artificial media aerial hyphae grow out from the surface of the mycelium, and present single chains of spores. When fragmentation occurs the aerial hyphae become separated off from the mycelium, and then present exactly the appearance of streptococci. Later these chains break up, and the spores appear as isolated spherical bodies, or in pairs. It is probable also that endogenous spore formation occurs along the length of some of the isolated rod segments.

In an old culture of the streptothrix, therefore, one finds the following elements: Longer or shorter bacillary forms, some of which may have a spiral or wavy appearance, some of which may resemble diphtheroid bacilli, and some of which may have the stump of a lateral branch still attached; short chains of spores, which resemble exactly streptococci; and paired or isolated spores. All these elements stain deeply by Gram's method; and, except when traces of branching remain—and segments showing this may be very few and far between—the surviving elements of the original mass of mycelium are indistinguishable morphologically, according to their nature, from bacilli and cocci. Under varying accidental circumstances incidental to the examination of cultures on artificial media, the spherical spores of the streptothrix may appear in stained specimens, as though they might be streptococci, diplococci, isolated cocci, or irregularly grouped staphylococci. If a species happens to be one of the acid-fast streptothrix, a correct morphological interpretation of specimens stained by the Ziehl-Neelsen method is obscured in another way

by the fact that in many cases some only of the persistent rod-shaped or bacillary segments have acid-fast properties. Also, with most acid-fast streptotrichæ, as with Koch's parasite of tuberculosis, acquisition of acid-fast properties is a matter of age. Some species which have this property develop it early and show it in nearly all of the rod segments, whilst in other species acid-fast properties are acquired only after some weeks of growth on artificial media, and then the special property is manifest only in a small minority of the segments. And so it will be found that in specimens from old cultures of a typical acid-fast streptothrix—such as *St. Nocardii*, *St. eppingeri*, or *St. lepræ*—which have been stained by the Ziehl-Neelsen method, not only have "bacillary" and "coccal" forms to be considered, but the bacillary forms are, apart from casual morphological variation, of two kinds—those which are acid-fast and those which are not so.

Something may be added generally as to the function of the spores and persistent rod form which in old cultures succeed the original branching mycelium of the streptothrix. With most of the numerous species which have now been examined in my laboratories, there is no possible doubt as to what happens when the organism is growing under conditions of culture on artificial media. Both the spores and the persistent rod forms of an old culture are capable, on transference to a new soil, of reproducing the branching mycelium which represents the type form of the genus. Under no circumstances of artificial culture has it appeared that rod segments are produced directly from pre-existing rod segments, and without the intervention of a mycelial stage. Equally, the spherical spores invariably sprout out into a new mycelial mass—a process which can be easily watched if an old culture of a quickly-growing species is kept for twenty-four hours in a drop of nutrient broth on a warm stage under the microscope. Also I have found clear microscopical evidence that the rod segments of a pathogenic streptothrix may develop into a new mass of branching mycelium under the conditions of parasitic life in an animal host. In some of the more slowly-growing species the intervention of the typical mycelial stage before the development of new persistent rod forms may be difficult to demonstrate when an old culture is transplanted in a fresh medium, and especially when the culture medium used is a solid one. But this difficulty arises from the fact that, growth being very slow on artificial media, segmentation and fragmentation of the mycelial threads follow so closely on increasing growth that it is almost impossible in some species to trace continuously the true morphology of the organism.

It is certain that the typical streptotrichæ present two distinct persistent and reproductive forms—spherical spores produced under conditions of artificial culture in special spore-bearing hyphæ, and rod segments. Either of these produces a new mycelium when transplanted in a fresh artificial culture medium; and the rod segments, as well as the spherical spores, are capable of producing similar mycelium in the tissues of an animal host. Further, whilst we have no evidence at present that the persistent rod forms are capable of directly reproducing themselves, as such, in growth on artificial media, there is a possibility that this direct reproduction may occur under strictly parasitic conditions. This possibility is suggested by what is known of the biology of *Sporothrix schenckii*, belonging to a closely allied but somewhat higher genus of mould fungi.

SPOROTHRIX.

Some ten years ago I pointed out that *Sporothrix* presented two different reproductive forms which may be termed provisionally, and for purposes of distinction, endogenous "spores" and exogenous "spore bodies." The type form of *Sporothrix* when growing on artificial

media is represented by a tangled mass of branching mycelium which resembles generally that of *Streptothrix*, but which is definitely septate, and of coarser character than the other. As the culture of *Sporothrix* grows older provision for reproduction is made in two ways. Spherical "spores" appear along the length of, and within, the comparatively coarse mycelial thread; and ovoid, yeast-like "spore bodies" bud out from the sides of the primary mycelial threads and from the extremity of secondary lateral branches. In course of time the mycelium degenerates and, as such, disappears; the only remnant of it is amorphous, Gram-staining *débris*. The persistent recognisable morphological elements in oldish cultures are the spherical "spores" and the yeast-like "spore bodies." If some of an old culture of *Sporothrix* is transferred to nutrient broth and afterwards watched on a warm stage under the microscope, it will be seen that each of the two morphologically different persistent elements gives rise to a new mycelium which sprouts out from either form, exactly as the nearly similar mycelium of a streptothrix sprouts out from either the spherical spore or the rod segment.

But whilst I have not hitherto been able to find any evidence as to the direct multiplication of the persistent rod forms of *Streptotrichæ* in growth on artificial media, it is otherwise with the persistent forms of *Sporothrix*. In old cultures of *Sporothrix schenckii* in a nutrient broth medium there are appearances which suggest direct multiplication of the persistent yeast-like bodies. One finds in such a culture large yeast bodies, like to those which in younger cultures are seen sprouting out from the mycelium, in immediate contact with three, four, or more smaller yeast forms. Also, under the conditions of parasitic life, a direct multiplication of the yeast-like bodies, as suggested by Hektoen, appears to be indisputable. If a mouse be inoculated subcutaneously with either a young mycelial culture or with an older culture which contains only spherical and yeast forms, a slowly-extending infective infiltration of the subcutaneous tissue follows. On examination after death it is found that the area of infected granulomatous tissue is thickly crowded with Gram-staining yeast forms; but no trace of mycelium can be found. The appearances are, in short, those of a yeast infection, except that the parasites are present in much larger numbers than one finds usually in an experimental yeast infection. On transplanting these yeast forms of *Sporothrix* from the animal tissues in an artificial medium, a growth of the typical mycelial form occurs at once, with subsequent development of the persistent forms. It should be added that my own experiments were carried out with a culture of *Sporothrix schenckii* with which Hektoen had very kindly supplied me. And a statement made in the paper referred to, that "mycelium apparently does not occur under parasitic conditions," applies only to experimental infection of the mouse with the particular species. Pinoy, on the other hand, has described recently natural cases of infection of man by *Sporothrix beurmannii*, in which, whilst yeast forms predominated in the tissues, mycelial forms were found in and around the capillaries of the parts infected.

BACILLARY FORMS.

In view, however, of the evidence as to the reproduction of the persistent yeast forms of *Sporothrix* by direct multiplication, the possibility of a similar reproduction in parasitic life of the persistent rod segments or "bacillary" forms, of the streptotrichæ has to be considered seriously. And the comparison is the more interesting when we remember that just as reliance on the morphology on one particular phase of development of the parasites of leprosy and tuberculosis as it occurs more conspicuously in the tissues has, unchecked by

cultural investigation, been responsible for the inclusion of these diseases amongst the bacillary infections, so a similarly misplaced reliance on the morphological significance of a phase of the life-cycle of the parasite as it occurs in the tissues has caused error in the diagnosis of cases of sporotrichosis. It is obvious from published records that in the past certain cases of infective granulomata occurring in man, which were attributed to "yeast" or "protozoal" infection, were actually cases of sporotrichosis. The persistent yeast forms of *Sporothrix* in the tissues were mistaken for yeasts, or coccidia, as the case happened. It was not until Schenck succeeded in obtaining the parasite in culture, and until Hektoen added to our knowledge of it, that a correct determination of the nature of sporotrichosis was possible. Similarly Calvin, Frothingham, and Paige have quite recently proved, by the isolation of *Sporothrix schenckii* from the infected tissues, the true nature of epizootic lymphangitis of horses, a disease which had been regarded at one time as a protozoal infection, at another time as a yeast infection.

The rod segments of streptotrichiae generally representing persistent forms which are capable of reproducing the mycelial form of the parasite, and possibly also capable of direct multiplication as rod forms, the particular significance of the specially staining rod segments of the acid-fast species has to be considered next. The acid-fast properties are associated with the presence in the organism of special fatty bodies (neutral fats, fatty acids, and lipoids) whose biochemical relations have been studied especially by Much and his pupils. Much has shown that the fatty bodies are specific generally for the acid-fast group of organisms, and are capable of producing specific antibodies in the serum of infected animals. Thus the nastin obtained from the parasite of leprosy is capable of causing a powerful reaction when injected into patients with either leprosy or tuberculosis; and the similar nastin obtained from the parasite of tuberculosis will cause a reaction with patients having either infection. Much and Kossli have shown by a series of complement-fixation tests that other, and non-pathogenic, acid-fast organisms—a "smegma" bacillus and the "blind worm" bacillus—are capable of reacting as antigens with the serums of tuberculous patients. Wills has shown, by an extended series of complement-fixation experiments, that the serums of leprosy and tuberculous patients, and of lower animals which have been immunised artificially against the respective parasites, contain antibodies which are specific for either organism, and also for the two non-pathogenic species, with differences which are merely quantitative. An excellent summary of the work done in the direction indicated by Much and those associated with him is given in Will's paper, and affords strong additional evidence as to the close relationship between the parasites of leprosy and tuberculosis and certain other reputed bacilli of the acid-fast kind, whose relationship with the streptotrichiae has been suspected for many years.

But whilst the requirements of acid-fast properties is associated with the presence of certain specific fatty bodies which are apparently common to all the acid-fast group, it must be remembered that the possession of these properties is, in a sense, an accidental characteristic, and one which certainly depends to some extent on external circumstances. Experience with organisms such as *St. novacardi*, *St. eppingeri*, *St. caprae* and *St. leprae*, shows that the acquirement of acid-fast properties during growth on artificial media is a matter of much uncertainty. Sometimes a culture will show acid-fast segments within a week, or less, of the commencement of growth; in other cultures none will be found for three or four weeks. The general rule is that the older a particular culture is the more conspicuous are the acid-fast forms.

In the case of *St. leprae* it would appear that the conditions of parasitic life specially favour the acquirement of acid-fast properties; under saprophytic conditions of growth the rod segments tend to remain non-acid-fast. With Koch's parasite of tuberculosis acid-fast properties are acquired quickly during saprophytic growth; it is only in very young cultures that the non-acid-fast forms described by Klein and others can be demonstrated.

What evidence is available on the point suggests that the acid-fast forms of *Streptothrix* may represent not only persistent but also specially resistant elements. The spherical spores of the streptotrichiae are generally distinctly less resistant against injurious physical and chemical influences than are the spores of fission fungi; and it may be that a second resistant element—the acid-fast rod form—has come into existence. Thus Marino found that the acid-fast forms of the parasite of tuberculosis preserved their vitality for a considerable time in the intestinal canal of the leech, resisting the action of the digestive juices for as long as fifteen months. At the end of that time there was marked attenuation of virulence; but still inoculation of the parasites into the guinea-pig was followed in some cases by a very slow infection which resulted in death. There is also evidence of a probably similar kind with regard to the parasite of leprosy. It has been suggested that growth of this organism on artificial media is favoured in symbiosis with intestinal amoebae, and Beauchamp Williams has recorded his own experiments bearing on this question. With certain strains of his streptothrix the acid-fast forms appeared to die out in the course of successive subcultures. Then subcultures which appeared to consist of non-acid-fast diphtheroid rod segments were mixed with amoebae. At the end of forty-eight hours the amoebae were found to be full of acid-fast rod segments. But an explanation other than that which supposes favourable symbiotic influences may be suggested. There is evidence that bacteria form a part of the natural food of the intestinal amoebae, and of *Amoeba dysenteriae* in particular. And under the circumstances it would seem most likely that the amoebae digest and assimilate the non-acid-fast segments of the streptothrix, and that in the struggle for prolonged existence other, more resistant, acid-fast forms survive, as Marino's experiments have shown to be the case with the acid-fast form of the parasite of tuberculosis which is resistant against the digestive ferments of the leech.—*Brit. Med. Journ.*

PROTECTION OF ANIMALS ACT, 1911.

[1 & 2 GEO. 5. CH. 27].

CHAPTER 27.

An Act to consolidate, amend, and extend certain enactments relating to Animals and to Knackers; and to make further provision with respect thereto.

[18th August, 1911].

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1.—(1) If any person—

- (a) shall cruelly beat, kick, ill-treat, over-ride, over-drive, over-load, torture, infuriate, or terrify any animal, or shall cause or procure, or, being the owner, permit any animal to be so used, or shall, by wantonly or unreasonably doing or omitting to do any act, or causing or procuring the commission or omission of any act cause any unnecessary suffering, or, being the owner

permit any unnecessary suffering to be so caused to any animal : or

- (b) shall convey or carry, or cause or procure, or, being the owner, permit to be conveyed or carried, any animal in such manner or position as to cause that animal any unnecessary suffering ; or
- (c) shall cause, procure, or assist at the fighting or baiting of any animal ; or shall, keep, use, manage, or act or assist in the management of, any premises or place for the purpose, or partly for the purpose, of fighting or baiting any animal, or shall permit any premises or place to be so kept, managed, or used, or shall receive, or cause or procure any person to receive, money for the admission of any person to such premises or place ; or
- (d) shall wilfully, without any reasonable cause or excuse, administer, or cause or procure, or being the owner permit, such administration of, any poisonous or injurious drug or substance to any animal, or shall wilfully, without any reasonable cause or excuse, cause any such substance to be taken by any animal ; or
- (e) shall subject, or cause or procure, or being the owner permit, to be subjected, any animal to any operation which is performed without due care and humanity ; such person shall be guilty of an offence of cruelty within the meaning of this Act, and shall be liable upon summary conviction to a fine not exceeding twenty-five pounds, or alternatively, or in addition thereto, to be imprisoned, with or without hard labour, for any term not exceeding six months.

(2) For the purposes of this section, an owner shall be deemed to have permitted cruelty within the meaning of this Act if he shall have failed to exercise reasonable care and supervision in respect of the protection of the animal therefrom :

Provided that, where an owner is convicted of permitting cruelty within the meaning of this Act by reason only of his having failed to exercise such care and supervision, he shall not be liable to imprisonment without the option of a fine.

(3) Nothing in this section shall render illegal any act lawfully done under the Cruelty to Animals Act, 1876, or shall apply—

- (a) to the commission or omission of any act in the course of the destruction, or the preparation for destruction, of any animal as food for mankind, unless such destruction or such preparation was accompanied by the infliction of unnecessary suffering ; or
- (b) to the coursing or hunting of any captive animal, unless such animal is liberated in an injured, mutilated, or exhausted condition ; but a captive animal shall not, for the purposes of this section, be deemed to be coursed or hunted before it is liberated for the purpose of being coursed or hunted, or after it has been re-captured, or if it is under control.

2. Where the owner of an animal is convicted of an offence of cruelty within the meaning of this Act, it shall be lawful for the court, if the court is satisfied that it would be cruel to keep the animal alive, to direct that the animal be destroyed, and to assign the animal to any suitable person for that purpose ; and the person to whom such animal is so assigned shall, as soon as possible, destroy such animal, or cause or procure such animal to be destroyed, in his presence without unnecessary suffering. Any reasonable expenses incurred in destroying the animal may be ordered by the court to be paid by the owner, and thereupon shall be recoverable summarily as a civil debt :

Provided that, unless the owner assent, no order shall be made under this section except upon the evidence of a duly registered veterinary surgeon.

3. If the owner of any animal shall be guilty of cruelty within the meaning of this Act to the animal,

the court, upon his conviction thereof, may, if they think fit, in addition to any other punishment, deprive such person of the ownership of the animal, and may make such order as to the disposal of the animal as they think fit under the circumstances :

Provided that no order shall be made under this section, unless it is shown by evidence as to a previous conviction, or as to the character of the owner, or otherwise, that the animal, if left with the owner, is likely to be exposed to further cruelty.

4. If any person shall, by cruelty within the meaning of this Act to any animal, do or cause to be done, any damage or injury to the animal or any person or property, he shall upon conviction for the cruelty under this Act, be liable upon the application of the person aggrieved to be ordered to pay as compensation to the person who shall sustain damage or injury as aforesaid, such sum not exceeding ten pounds, as the court before whom he is convicted may consider reasonable :

Provided that this section shall not—

- (a) prevent the taking of any other legal proceedings in respect of any such damage or injury, so that a person be not twice proceeded against in respect of the same claim ; nor
- (b) affect the liability of any person to be proceeded against and punished under this Act for an offence of cruelty within the meaning of the Act.

5.—(1) Every person who shall carry on, or assist in carrying on, the trade or business of a knacker shall observe and conform to the regulations set out in the First Schedule to this Act, and, if any person, carrying on or assisting in the carrying on of the said trade or business, contravenes or fails to comply with, or causes or procures or permits any contravention or non-compliance with, any such regulation, he shall be liable upon summary conviction to a fine not exceeding ten pounds.

(2) Any constable shall have a right to enter any knacker's yard at any hour by day, or at any hour when business is or apparently is in progress or is usually carried on therein, for the purpose of examining whether there is or has been any contravention of or non-compliance with the provisions of this Act, and, if any person refuses to permit any constable to enter any premises which he is entitled to enter under this section, or obstructs or impedes him in the execution of his duty under this section, he shall, upon summary conviction, be liable to a fine not exceeding five pounds.

(3) For the purposes of section one, which relates to offences of cruelty, of this Act, a knacker shall be deemed to be the owner of any animal delivered to him.

(4) For the purposes of this Act, an animal shall be deemed to have been delivered to a knacker if it has been delivered either to the knacker himself, or to any person on his behalf, or at the knacker's yard.

6.—(1) It shall not be lawful for any person who shall be licensed to slaughter horses, during the time while such licence shall be in force, to carry on the trade or business of a dealer in horses.

(2) If any person shall act in contravention of this section, he shall be liable upon summary conviction to a fine not exceeding ten pounds.

7.—(1) Any person who impounds or confines, or causes to be impounded or confined, any animal in any pound shall, while the animal is so impounded or confined, supply it with a sufficient quantity of wholesome and suitable food and water, and, if he fails to do so, he shall be liable upon summary conviction to a fine not exceeding five pounds.

(2) If any animal is impounded or confined in any pound and is without sufficient suitable food or water for six successive hours, or longer, any person may

enter the pound for the purpose of supplying the animal therewith.

(3) The reasonable cost of the food and water supplied to any animal impounded or confined in any pound shall be recoverable summarily from the owner of the animal as a civil debt.

8.—If any person—

- (a) shall sell, or offer or expose for sale, or give away, or cause or procure any person to sell or offer or expose for sale or give away, or knowingly be a party to the sale or offering or exposing for sale or giving away of any grain or seed which has been rendered poisonous except for *bona fide* use in agriculture; or
- (b) shall knowingly put or place, or cause or procure any person to put or place, or knowingly be a party to the putting or placing, in or upon any land or building any poison, or any fluid or edible matter (not being sown seed or grain) which has been rendered poisonous,

such person shall, upon summary conviction, be liable to a fine not exceeding ten pounds:

Provided that, in any proceedings under paragraph (b) of this section, it shall be a defence that the poison was placed by the accused for the purpose of destroying rats, mice, or other small vermin, and that he took all reasonable precautions to prevent access thereto of dogs, cats, fowls, or other domestic animals.

9.—If any person shall use, or cause or procure, or being the owner permit, to be used, any dog for the purpose of drawing or helping to draw any cart, carriage, truck, or barrow, on any public highway, he shall be liable upon summary conviction in respect of the first offence to a fine not exceeding two pounds, and in respect of the second or any subsequent offence to a fine not exceeding five pounds.

10.—Any person who sets, or causes or procures to be set, any spring trap for the purpose of catching any hare or rabbit, or which is so placed as to be likely to catch any hare or rabbit, shall inspect, or cause some competent person to inspect, the trap at reasonable intervals of time and at least once every day between sunrise and sunset, and, if any person shall fail to comply with the provisions of this section, he shall be liable, upon summary conviction, to a fine not exceeding five pounds.

11.—(1) If a police constable finds any animal so diseased or so severely injured or in such a physical condition that, in his opinion, having regard to the means available for removing the animal, there is no possibility of removing it without cruelty, he shall, if the owner is absent or refuses to consent to the destruction of the animal, at once summon a duly registered veterinary surgeon, if any such veterinary surgeon resides within a reasonable distance, and, if it appears by the certificate of such veterinary surgeon that the animal is mortally injured, or so severely injured, or so diseased, or in such physical condition, that it is cruel to keep it alive, it shall be lawful for the police constable, without the consent of the owner, to slaughter the animal, or cause or procure it to be slaughtered, with such instruments or appliances, and with such precautions, and in such manner, as to inflict as little suffering as practicable, and, if the slaughter takes place on any public highway, to remove the carcase or cause or procure it to be removed therefrom.

(2) If any veterinary surgeon summoned under this section certifies that the injured animal can without cruelty be removed, it shall be the duty of the person in charge of the animal to cause it forthwith to be removed with as little suffering as possible, and, if that person fail so to do, the police constable may, without the consent of that person, cause the animal forthwith to be so removed.

(3) Any expense which may be reasonably incurred

by any constable in carrying out the provisions of this section (including the expenses of any veterinary surgeon summoned by the constable, and whether the animal is slaughtered under this section or not) may be recovered from the owner summarily as a civil debt, and, subject thereto, any such expense shall be defrayed out of the fund from which the expenses of the police are payable in the area in which the animal is found.

(4) For the purposes of this section, the expression "animal" means any horse, mule, ass, bull, sheep, goat, or pig.

12. (1) A police constable may apprehend without warrant any person who he has reason to believe is guilty of an offence under this Act which is punishable by imprisonment without the option of a fine, whether upon his own view thereof or upon the complaint and information of any other person who shall declare his name and place of abode to such constable.

(2) Where a person having charge of a vehicle or animal is apprehended by a police constable for an offence under this Act, it shall be lawful for that or any other constable to take charge of such vehicle or animal, and to deposit the same in some place of safe custody until the termination of the proceedings or until the court shall direct such vehicle or animal to be delivered to the person charged or the owner, and the reasonable costs of such detention, including the reasonable costs of veterinary treatment where such treatment is required, shall, in the event of a conviction in respect of the said animal, be recoverable from the owner summarily as a civil debt, or, where the owner himself is convicted, shall be part of the costs of the case.

13. (1) Where proceedings are instituted under this Act against the driver or conductor of any vehicle, it shall be lawful for the court to issue a summons directed to the employer of the driver or conductor, as the case may be, requiring him, if it is in his power so to do, to produce the driver or conductor at the hearing of the case.

(2) Where proceedings are instituted under this Act, it shall be lawful for the court to issue a summons directed to the owner of the animal requiring him to produce either at, or at any time before, the hearing of the case, as may be stated in the summons, the animal for the inspection of the court, if such production is possible without cruelty.

(3) Where a summons is issued under either of the foregoing subsections of this section, and the owner or employer, as the case may be, fails to comply therewith without satisfactory excuse, he shall be liable upon summary conviction to a fine not exceeding five pounds for the first occasion, and not exceeding ten pounds for the second or any subsequent occasion, on which he so fails, and may be required to pay the costs of any adjournment rendered necessary by his failure.

14. (1) An appeal shall lie from any conviction or order (other than an order for the destruction of an animal) by a court of summary jurisdiction under this Act to quarter sessions.

(2) Where there is an appeal by the owner of an animal from any conviction or order by a court of summary jurisdiction under this Act, the court may direct that the recognisance required to be entered into under subsection (3) of section thirty-one, which relates to procedure on appeal to general or quarter sessions, of the Summary Jurisdiction Act, 1879, shall include an undertaking not to sell or part with the animal until the appeal is determined or abandoned, and to produce it on the hearing of the appeal if such production is possible without cruelty.

15.—In this Act, except the context otherwise requires, or it is otherwise expressly provided—

- (a) the expression "animal" means any domestic or captive animal ;
- (b) the expression "domestic animal" means any horse, ass, mule, bull, sheep, pig, goat, dog, cat, or fowl, or any other animal of whatsoever kind or species, and whether a quadruped or not which is tame or which has been or is being sufficiently tamed to serve some purpose for the use of man ;
- (c) the expression "captive animal" means any animal (not being a domestic animal) of whatsoever kind or species, and whether a quadruped or not, including any bird, fish, or reptile, which is in captivity, or confinement, or which is maimed, pinioned, or subjected to any appliance or contrivance for the purpose of hindering or preventing its escape from captivity or confinement ;
- (d) the expression "horse" includes any mare, gelding, pony, foal, colt, filly, or stallion ; and the expression "bull" includes any cow, bullock, heifer, calf, steer, or ox, and the expression "sheep" includes any lamb, ewe, or ram ; and the expression "pig" includes any boar, hog, or sow ; and the expression "goat" includes a kid ; and the expression "dog" includes any bitch, sapling, or puppy ; and the expression "cat" includes a kitten ; and the expression "fowl" includes any cock, hen, chicken, capon, turkey, goose, gander, duck, drake, guinea-fowl, peacock, peahen, swan, or pigeon ;
- (e) The expression "knacker" means a person whose trade or business it is to kill any cattle not killed for the purpose of the flesh being used as butcher's meat, and the expression "knacker's yard" means any building or place used for the purpose, or partly for the purpose, of such trade or business, and the expression "cattle" includes any horse, ass, mule, bull, sheep, goat, or pig ;
- (f) The expression "pound," used in relation to the impounding or confining of animals, includes any receptacle of a like nature.

16. This Act shall not apply to Scotland.

17. This Act in its application to Ireland shall be subject to the following modifications, namely :—

- (1) (a) Section twenty-three of the Summary Jurisdiction (Ireland) Act, 1851 (which gives a right to appeal) shall apply as respects any conviction or order under this Act (other than an order for the destruction of an animal), notwithstanding that the fine imposed does not exceed twenty shillings or that the term of imprisonment imposed does not exceed one month ;
- (b) A reference to section twenty-four of the Petty Session (Ireland) Act, 1851, shall be substituted for the reference to sub-section (3) of section thirty-one of the Summary Jurisdiction Act, 1879.
- (2) Nothing in Section eight of this Act shall prevent owners or occupiers of land in Ireland from laying or causing to be laid any poison or poisonous matter as therein described, after a notice has been posted in a conspicuous place, and notice in writing has been given to the nearest constabulary station.

18. Except so far as applying to Scotland, the enactments mentioned in the Second Schedule to this Act are repealed to the extent mentioned in the third column of that schedule.

19. (1) This Act shall come into operation on the first day of January nineteen hundred and twelve.

(2) This Act shall not apply where proceedings have been instituted before the commencement of this Act.

(3) This Act may be cited as the Protection of Animals Act, 1911.

SCHEDULES.—FIRST SCHEDULE.

1. The name of the knacker, together with the word "knacker," shall be painted or affixed in a conspicuous manner over the door or gate of the knacker's yard.
2. The hair shall be cut from the neck of any horse, ass, or mule directly the animal has been delivered to the knacker.
3. All animals shall be slaughtered, with as little suffering as possible, within two days from the time they have been delivered to the knacker. Any animal which is in pain shall be so slaughtered without delay.
4. All animals shall be properly fed and watered after they have been delivered to the knacker.
5. No animal shall be used or employed for any work after it has been delivered to the knacker.
6. The knacker shall enter in a book kept for the purpose such a full and correct description of the colour, marks, and gender of every animal delivered to him as may clearly distinguish and identify the same, and the name and address of the owner thereof, and the book shall be produced by him before any justice of the peace upon the requirement of such justice, and the knacker shall allow such book to be inspected and extracts to be made therefrom at all reasonable times by any police constable or by any other person authorised by a justice of the peace.
7. No person who is under the age of sixteen years shall be admitted to, or permitted to remain in, the knacker's yard during the process of slaughtering or of cutting up the carcase of any animal.
8. No animal shall be killed in the sight of any other animal awaiting slaughter.
9. The knacker shall not sell or part with alive, or cause or procure or permit any person to sell or part with alive, any animal which has been delivered to him.

SECOND SCHEDULE.—ENACTMENTS REPEALED.

- 26 Geo. 3. c. 71. The Knacker's Act, 1786.
Extent of repeal : Section four.
- 7 & 8 Vict. c. 87. The Knacker's Act, 1844.
Section three.
- 12, 13 Vict. c. 92. The Cruelty to Animals Act, 1849.
The whole Act, so far as not already repealed.
- 17, 18 Vict. c. 60. The Cruelty to Animals Act, 1854.
The whole Act.
- 26, 27 Vict. c. 113. The Poisoned Grain Prohibition Act, 1863.
The whole Act.
- 27, 28 Vict. c. 115. The Poisoned Flesh Prohibition Act, 1864.
The whole Act.
- 39, 40, Vict. c. 13. The Drugging of Animals Act, 1876.
The whole Act.
- 63, 64 Vict. c. 33. The Wild Animals in Captivity Protection Act, 1900. Whole Act.
- 7 Edw. 7. c. 5. The Injured Animals Act, 1907.
The whole Act.

The Doomed Horse Cab.

The picturesque Berlin cabman, with his white enamel hat, his out-of-date vehicle, his aged horse, his exorbitant charges, and his ungrateful manners, is to disappear. The Chief of Police rules that the obsolete conveyances can no longer be allowed in the thoroughfares of the city after April 1st next. Compensation (£30) is to be paid to each of the sixty licensed drivers who are affected, and application for permission to drive motor vehicles is to be favourably considered provided they are able to qualify.—*Evening News*.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
	Outbreaks		Animals		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Out-breaks	Slaugh-tered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
G.T. BRITAIN.													
Week ended Feb. 10	30		31				4	4	110	219	14	67	1123
Corresponding week in	1911	23	23				6	11			34	41	571
	1910		27	29			11	38			23	20	147
	1909		29	35			14	58			46	28	283
Total for 6 weeks, 1912	152		168				18	39	853	2212	91	369	4386
Corresponding period in	1911	132	145				29	80			185	213	2346
	1910		179	212			43	136			183	122	837
	1909		168	210			59	154			236	186	1326

* Counties affected, animals attacked: London 2, Middlesex 2.

Board of Agriculture and Fisheries, Feb. 13, 1912.

				Outbreaks									
IRELAND.				...	...	...	...	...	...	...	...	...	...
Week ended Feb. 10				...	...	...	...	...	...	2	14	2	10
Corresponding Week in	1911	...	1	1	...	...	...	...	...	4	10	2	56
	1910	...	...	...	...	...	...	...	...	2	18	...	...
	1909	...	...	...	...	...	...	...	...	4	7	...	...
Total for 6 weeks, 1912				...	1	1	...	...	...	13	124	15	164
Corresponding period in	1911	...	3	3	...	...	...	...	...	15	126	21	341
	1910	...	2	2	...	...	...	...	...	15	135	5	156
	1909	...	1	1	...	...	...	...	...	16	92	3	12

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 12, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

COLLOIDAL SOLUTIONS AND ARTIFICIAL ENZYMES.

Among the many departments of scientific work in which the researches of recent years have led to notable progress, two which are of considerable interest and importance are the study of colloidal solutions and that of enzymes and enzyme action. These branches of investigation are not altogether independent of each other, and in particular they converge on questions of the chemistry of physiological processes. In this field it is claimed by some that the results already arrived at are of great importance to practical medicine, and it will not be out of place here to give a brief summary of this part of the subject.

The systematic study of colloids was first undertaken by Thomas Graham, and various papers on the subject were published by him in the years 1861 to 1864. In investigating the properties of substances in solution, Graham found that the bodies studied could be arranged in two classes, to which he gave the names *crystalloids* and *colloids*. The most characteristic and constant difference between them was that the former can diffuse, when in solution, through a membrane of parchment or similar material, while the latter cannot. The terms are still retained with the same general meaning as that given by Graham; but instead of considering crystalloids and colloids as different classes of bodies, investigation has shown that it is more correct to speak of the crystalloidal and colloidal states of matter, since a large and increasing number of substances have been obtained in both kinds of solution. Graham used the term *sol* to denote a colloidal solution, and this term is now in

general use in this sense, such solutions being called *hydrosols* when water is the medium, *alcosols* when the solvent is alcohol, and, generally, *organosols* when the solvent is an organic liquid. The coagulated form of a colloidal substance is called a *gel*, and a gel formed from a hydrosol and retaining water is a *hydrogel*. A sol may be converted into a gel in a variety of ways, two of the most usual being the addition of an electrolyte and the application of heat; in some cases a reversal of the conditions restores the sol form of the colloid, but in other cases the gel cannot be redissolved by any such means. In accordance with their behaviour in this respect, colloids may be classified into reversible and irreversible, and the distinction is of some practical importance.

Some of the most interesting of the sols which have been studied in recent years have been those of the metals: gold, platinum, silver, mercury, and many other metals have been obtained in the form of hydrosols, while others, such as the alkali metals, have been obtained as sols in certain organic solvents. An impure sol of silver was prepared as long ago as 1839 by Wohler, although its real nature was not understood by him; the method used in preparing it—heating silver citrate in a stream of hydrogen—gives substantially the same product as the “colloidal silver,” or “collargol,” which has found its way into medicine in recent years. Another metal which has found some therapeutic application in the form of a sol is mercury, and colloidal calomel is also employed. A more familiar example, now much less used than formerly, is the so-called “dialysed iron” (liquor ferri dialysatus), which consists of a hydrosol of ferric hydroxide. The addition to this of a very small quantity of sodium sulphate, or of some other salt hav-

ing no *chemical* action upon it, causes "gelatinization" of the liquor, or, in other words, converts the sol to a gel; and the other sols just alluded to show a similar behaviour on the addition of a trace of an electrolyte. On the other hand, many of the common colloids only show reversible changes; a fairly strong solution of gelatin, for example, sets to a "solid" or a gel on cooling, but resumes the sol form on again raising the temperature; a large excess of salt will throw out the gelatin, but on washing away the salt it can be redissolved. An important fact is that in some cases if the sol of an irreversible colloid is mixed with the sol of a reversible one the mixture is reversible.

Colloids differ from crystalloids, not only in being non-diffusible, but also in the fact that they have no osmotic pressure, or almost none; hence the boiling and freezing points of the solvent are not altered by the colloid as they would be by the presence of a dissolved crystalloid. It is not possible at present to make positive assertions as to the actual condition in which a substance exists when in colloid solution, but a good deal of knowledge with regard to the matter has been gained in recent years by the use of the ultramicroscope in the form given to it by Siedentopf and Zsigmondy. A pencil of convergent rays of light is passed into the solution under investigation, and the path of the beam is examined, against a black background, with a strong microscope. In the case of a perfectly homogeneous liquid nothing is seen; the light passes without diffraction or reflection, and none of it, therefore, is diverted into the microscope. But if the liquid contains solid particles in suspension (which may be far too small to be detected by ordinary microscopical examination in a bright field), some of the rays will be scattered by reflection at the surfaces of the particles; if they are sufficiently numerous and of sufficient size, the amount of light so scattered may be sufficient to be perceived by the unaided eye, and the path of the rays will then appear luminous; on examining it with the microscope the luminosity may be seen to be not continuous, but to proceed from numerous small particles, which reflect portions of the beam.

A good analogy is furnished by the familiar fact that if a pencil of rays of sunlight passes through a hole in a shutter into a darkened room in which the air is perfectly still and pure, the rays are invisible from a point at the side of their path, and are only perceived by the image formed on the opposite wall; but if the air has been recently disturbed the particles of dust floating in it scatter so much of the light that its path appears luminous from a little distance, while closer inspection shows the particles of dust as brilliantly illuminated objects, although they become invisible if light is freely admitted into the room.

If ordinary distilled water, even after filtration, is examined with the ultramicroscope, it is seen to contain numerous suspended particles, and it is only after standing undisturbed for weeks, in order that they may subside, that it is obtained tolerably free from them. If a colloid solution is examined with the ultramicroscope it usually shows numerous particles of varying sizes in active movement; in some solutions, however, only a general luminosity has been observed, discrete particles not being distinguishable. When particles are suspended in a liquid of greater or less density than themselves, motion is always observed, and has received the name Brownian movement. The movements to be observed in a colloidal solution with the ultramicroscope, however, have not the characters of the usual Brownian motion. Zsigmondy thus describes his first examination of a metallic hydrosol, in which he expected to see the ordinary Brownian movement of particles:—

"How entirely erroneous was this idea! The small gold particles no longer float, they move, and that with astonishing rapidity. A swarm of dancing gnats in a sunbeam will give one an idea of the motion of the gold particles in the hydrosol of gold. . . . This motion gives an indication of the continuous mixing up of the fluid, and it lasts hours, weeks, months, and, if the fluid is stable, even years. . . . The smallest particles which can be seen in the hydrosol of gold show a combined motion, consisting of a motion of translation by which the particle moves from 100 to 1000 times its own diameter in one-sixth to one-eighth of a second, and a motion of oscillation of a considerably shorter period, and on this account the possibility of the presence of a motion of oscillation of a higher frequency and smaller amplitude could not be determined, but is probable."

It is possible to arrive at approximate measurement of the particles thus rendered visible: in colloidal solutions their diameter is from 20μ down to about 1μ (1μ =one millionth of 1 mm.). They thus approach in smallness the limits which have been assigned from other considerations for the diameter of molecules. The motions which the ultramicroscope reveals are always going on, and were found to be undiminished after keeping for months. A statement of Graham's that "the colloidal is, in fact, a dynamical state of matter, the crystalloidal being the static condition; the colloid possesses *Energia*" is thus shown to be well founded.

Sols of metals may be prepared in several ways, one of the simplest being that introduced by Professor Bredig, of Heidelberg, in 1898, in which a current of electricity is passed between poles of the metal whose sol is required, below the surface of pure water. Some disruption of the metal of the cathode occurs, and the particles which fly off from it assume the colloidal state, the liquid becoming coloured after a short time and then consisting of a hydrosol of the metal. Sols of gold, silver, and platinum, containing about 0.004 or 0.005 per cent. of the metal, were so prepared, and the method has been modified and extended to other cases by Svedberg since 1905. The metallic sols so obtained are extremely sensitive to traces of electrolytes and to the influence of heat, the change to gels being irreversible. They possess some remarkable properties, before discussing which it will be necessary to refer to enzyme action.

The natural enzymes form a large group of bodies occurring in animal and vegetable organisms, characterised by having the power of inducing chemical changes in other bodies without themselves becoming changed; in other words, they are catalytic agents.

Various hypotheses have been put forward to account for catalytic action, but no one of them has been proved to be true to the exclusion of the others, and there is good reason to believe that the mode of action is different in different cases. One of the proposed explanations is that the catalyst acts by means of molecular vibrations; the molecules of the substance acted on are supposed to be already in a state of vibration, which becomes increased by sympathetic vibrations in the catalyst to such an extent that the vibrations pass the point of equilibrium, and the substance accordingly undergoes decomposition. According to another view, the substance acted on first forms a compound with the catalyst; then this compound breaks down more completely than merely into its two components, fresh products being formed, and the catalyst set free in its former condition. A third hypothesis is that the acceleration of a reaction caused by a catalyst is due to the altered solubility of the substance acted on, and to its having a different reaction velocity when dissolved in the medium *plus* the catalyst. Whatever the explanation of catalytic action may be, a remarkable fact about the organic catalysts known as enzymes is that the range

of their activity is extremely limited, so that a given enzyme which can cause the decomposition of some one substance is often quite powerless to effect the similar decomposition of some nearly allied substance; in other words, their action is specific in a high degree. For example, cane sugar is hydrolysed into glucose and fructose by the catalytic action of the enzyme invertase, which is unable to exercise a similar action on maltose (an isomer of cane sugar); for the corresponding hydrolysis of this the presence of another enzyme, maltase, is required. A few of the known enzymes can resolve a number of different bodies; thus emulsin induces the decomposition of any of the glucosides amygdalin, arbutin, helicin, salicin, phloridzin, daphnin, and others; but, as a rule, one enzyme can cause decomposition of one particular body and of no others, even stereo-isomerism being in many cases a sufficient difference, so that one of a pair of stereo-isomers is acted on by a given enzyme, while the other is not. Thus, whatever may be the mechanism of enzyme action, there must be some very close relation analogous to that between key and lock, between an enzyme and some grouping or structural arrangement in the molecule attacked.

Enzymes play an enormous part in the chemistry of the physiological processes of both plants and animals. That this is the case with the digestive processes has long been known, but further research has extended the observation to most of the chemical actions of living cells. This has necessarily meant a very large increase in the number of individual enzymes known; but it is probable that no enzyme has as yet been prepared in a state of purity, the fact that they are all colloids making purification extremely difficult, while it also makes the establishment of definite criteria of purity a much less easy matter than it is in the case of crystalloids. The fact that the natural enzymes are all colloidal substances leads naturally to the inquiry whether any other colloids, not produced by living matter as enzymes are, possess catalytic powers similar to those of the latter; and it is found that the simplest of all known colloids, the hydrosols of certain metals, possess in a high degree some properties resembling those of enzymes; and some enthusiastic workers on this subject have applied to them the names of "metallic ferments" or "artificial enzymes."

Although an enzyme has usually some specific and characteristic power of acting as a catalyst towards some one substance, many are capable of acting as catalysts towards certain other bodies also, the changes which result not being specific but being induced by many enzymes indifferently. The most general of such catalytic actions is that which causes hydrogen peroxide to break up into water and oxygen: the many enzymes capable of doing this are called peroxidases. This property is shared by the hydrosols of gold, silver, and other metals; but since the decomposition of hydrogen peroxide may also be induced by finely-divided metals in the solid state, such as platinum black, it must not be too hastily regarded as evidence of an enzyme-like nature in the sols. Another group of natural enzymes, called oxidases, are able to cause oxidation by means of the oxygen of the air, and some colloid mineral substances have been found to exhibit a similar action. Neilson has shown that colloidal platinum and platinum black are able to cause hydrolysis of starch and decomposition and resynthesis of fats. But no case appears to have been recorded in which an "artificial enzyme" has shown a specific power of catalytically inducing decomposition of only one substance, or even a small group; on the contrary, their catalytic power is always far more general than that of natural enzymes.

A striking similarity between enzymes and some inorganic colloids is seen in their sensitiveness to the inhibitive action of minute traces of certain substances;

the proportion of catalyst to substance acted on, and of the inhibiting substance (which has been called a paralyser) to the catalyst, are very small—for example, a solution containing 0.00001 gram of colloidal platinum per c.c.m. acting upon a solution of hydrogen peroxide containing 0.06 gram per c.c.m., converted more than half of it into water and oxygen in forty minutes; the addition of 0.000000014 gram of hydrogen cyanide per c.c.m. reduced the rate of change by one-half.

This resembles the effect which has been found to be produced upon living organisms by minute traces of certain metals in distilled water, traces far too minute for detection by any chemical analysis. Thus, mere immersion of a strip of clean copper in a vessel of distilled water containing a number of tadpoles, which would otherwise live in it for several weeks, is sufficient to kill them in a few hours. At the last *soirée* of the Royal Society (June 14th, 1911) Mr. Henry Crookes exhibited a number of cultures of *B. phosphorescens*, and photographs of cultures of *B. coli communis* and *B. prodigiosus*, showing the germicidal effect of certain metals. Nutrient fish-agar was poured into Petri dishes, each containing a small square of metal, and when the agar had set the surface was inoculated with the bacilli; after twenty-four hours they were found to have grown freely except in a zone round the metal. It is interesting to note, however, the differences between different metals in this germicidal effect. Gold, platinum, and a few others had no such action; copper, bismuth, zinc, etc., had a slight germicidal action; and silver and mercury were among those showing strong germicidal action.

Professor Albert Robin, of Paris, in a treatise entitled *Les ferments métalliques et leur emploi en thérapeutique*, has described the results obtained in a number of therapeutic trials of metallic hydrosols, prepared according to the method of Bredig described above. He refers to the theory that the catalytic powers of enzymes are not due directly to their constitution, but to their molecules being in a state of vibration and capable of communicating such vibration to other substances, and so to cause them to undergo chemical change; he expresses his own view that metallic sols, which he calls metallic ferments, act by virtue of the intense vibratory movement of their extremely minute particles. According to his experience the properties of the sols appear to be identical, whatever the metal dissolved; this is slightly qualified by the statement that he thought he had obtained more regular therapeutic results with palladium than with platinum and gold, but he found that the solutions of the two latter which he was using at the time underwent alterations more rapidly than the solution of palladium, and he ascribes the superiority of the latter solution to this fact. In regard to germicidal action, the experiments by Charrin, Monnier-Vinnard, and others which are quoted were all made with colloidal solution of silver, and showed a very high germicidal effect on pneumococcus, staphylococcus, and several other organisms; it would have been interesting to know how far similar properties were shown by gold and platinum, in view of Dr. Robin's statement that they did not appear to differ therapeutically, and the great differences in the germicidal actions of the metals themselves as shown by Mr. Crookes's experiments. In his therapeutic tests Dr. Robin employed hydrosols of silver, gold, platinum, palladium, and an organosol containing manganese combined with albumen and alkali. The hydrosols were prepared by Bredig's method; as already noted, they are immediately converted into gels by the addition of an electrolyte or by heat, and consequently they cannot be employed in isotonic solution, nor can they be sterilised by boiling; the author states, however, that these hydrosols should alone be used, and not those preparations in which the addition of a reversible colloid has produced a more stable mixture. His words on this

point are emphatic: "It is necessary to call the particular attention of practitioners to the fact that it is impossible to use in practice with advantage metallic solutions said to be stabilised by an organic colloid, sterilised by heat, and containing sodium chloride or other salts designed to render them isotonic. There are, in fact, a number of commercial preparations thus produced the use of which can only lead to failure or to incomplete results by which therapeutic agents of the highest value are discredited." He also insists that Bredig's silver hydrosol is quite a different thing from collargol, and gives a list of reactions in which they behave quite differently; it is interesting to note, however, that Zsigmondy examined Carey Lea's colloidal silver with the ultramicroscope in comparison with Bredig's, and found that at suitable dilutions, the number, size, and motions of the particles were much alike in both.

An account of the results recorded by Dr. Robin would be beyond the scope of the present general summary; it will suffice to say that he described in some detail the use of these colloids in various diseases, including pneumonia, acute rheumatism with complications, meningitis, typhoid fever, scarlatina diphtheria, and puerperal septicaemia, in which the results appear to have been very favourable, and Bright's disease, secondary syphilis, pulmonary tuberculosis, and cancer, in which no benefit was obtained.—*Brit. Med. Journ.*

THE CANADIAN REPORT, 1910-11.

The Report of the Veterinary Director-General and Live Stock Commissioner to the Department of Agriculture, Canada, for the year ending March 31, 1911, is a volume containing 388 pages of closely written literary matter, exclusive of the index and some appended maps and figures; and the whole is of exceptional interest.

The first 94 pages are taken up by the main report of the then Veterinary Director-General and Live Stock Commissioner, Dr. J. G. Rutherford, C.M.G. This surveys the whole of the year's work in connection with both the health of animals and the live stock industry. Not a little of it is statistical; and the whole, while deeply interesting, covers far too great a variety of subjects to be even summarised adequately here. Leaving almost the whole of it, therefore—from the suggestive opening remarks upon the decrease in Canadian exports of live stock and meat onwards—we merely note, at the absolute conclusion, that the comparatively recent amalgamation of two Governmental branches seems to be working well.

Dr. Rutherford's concluding sentences are:—"The wisdom of the arrangement by which in 1906 the activities of the Health of Animals and Live Stock Branches were combined under one head becomes yearly more apparent. These branches which formerly crossed and overlapped each other to a regrettable degree, now work harmoniously together, and by this co-operation achieve infinitely better results, while at the same time effecting a very appreciable saving in salaries and other expenses." Certainly there seems very much to be said in favour of working the two branches in combination in all countries.

The lengthy remainder of the volume is taken up by a number of appendices. Amongst them are reports of different officials concerning their special provinces, Acts of Parliament and quarantine regulations (the question of quarantine, as might be expected in a country like Canada, looms large throughout the report), the records of performances of pure-bred dairy cattle, and—last but not least—a number of scientific reports of the work done in special laboratories or in the investigation of certain diseases. Perhaps the most interesting of the

latter is the account given by Dr. S. Hadwen, v.s., First Assistant Pathologist, of his researches upon the peculiar disease known as "redwater" in the cattle of British Columbia. This is not a hæmoglobinuria, but a hæmaturia or hæmorrhagic cystitis. Its exact mortality is somewhat doubtful, but is certainly high; and its causation is quite obscure at present. Formerly it was regarded as contagious: but Dr. Hadwen's observations tend to negative this view, and to cast suspicion upon dietetic and climatic influences. The main symptoms are hæmaturia, emaciation, occasionally icterus, and often, in the later stages, dropsy. The post-mortem lesions are insignificant, and are confined to the bladder and liver, with only occasional changes in the kidneys. Treatment, so far, has not been very satisfactory: but calcium lactate seems to give the best results.

Equine Swamp fever, which is attracting increased attention in North America and Canada, also formed the subjects of special reports by various officers; while, of course, statistics of all important diseases are included in the volume. Speaking generally the progress made with all these has been exceedingly good, and perhaps especially so with regard to anthrax, black quarter, and sheep scab. Rabies, which was re-introduced from the State of New York in 1907, and since assumed a serious aspect in Canada, has now been brought under control.

The last appendix (Appendix xxiii), with five additional sub-appendices arising from it, is a reprint of the first report of the International Commission on the Control of Bovine Tuberculosis and those of its committees. In 1909, the American Veterinary Medical Association appointed this Commission, the members of which (at first twelve in number, but afterwards rising to fourteen) were representative of both Canada and various of the United States, to "study the methods of the Control of Bovine Tuberculosis" and report thereon to the Association. A word of explanation of how this has been done is here necessary. No experiments have been performed, and no expert evidence has been taken. To quote from the report—"The members fully understand that the purpose which their appointment was intended to serve was less the acquisition of new knowledge regarding bovine tuberculosis than the careful study of the knowledge already available, and of the thoughts and opinions of those most entitled to speak with authority on the subject. The conclusions reached in this report are, therefore, simply the outcome of an earnest and thoughtful consideration of the various modern aspects and phases of the problem, with the object of crystallising public opinion and so clearing the way for legislative action." The Commission, therefore, is a deliberative rather than an investigatory body; and as its *personnel* included many men—such as Rutherford, the late Leonard Pearson, Torrance, and others—having very special knowledge of the subject, the result of its labours could hardly have failed to be valuable. The report deals with every aspect of the subject on broad lines, and therefore consists partly of an explanatory summary of the existing knowledge of tuberculosis and its eradication, and partly recommendations based upon that knowledge.

The summary, naturally, contains nothing that is not familiar to every veterinarian; the suggestions for action may be briefly described as consisting, in the main, in the slaughter of clinically affected animals and the building up of new tubercle free herds on lines similar to those of Bang. Along with these measures, general advice regarding prophylaxis is given; and the subject throughout is dealt with very broadly, it being admitted that different local conditions may necessitate some modifications in the details of the operations. While recognising the necessity for compulsory legislation upon the disease, the Commission lay great stress upon the need for popular education regarding the subject

as an indispensable adjunct. Certainly the report itself, which is written throughout with admirable simplicity and clearness, may be expected to exercise a very potent educative influence indeed.

Taking this large volume as a whole, we have only one regret upon laying it down. And that is, that the work of which it treats is now going on without the aid of Dr. Rutherford, who has done so much for the agriculture and veterinary science of Canada in the past.

Potassium Permanganate in Fistulæ.

There is little doubt that oxidation and allied conditions often act upon aerobic as well as upon anaerobic bacterial lesions, and the fact that many a chronic case of empyema is hastened in its healing by oxygen put into the wound by means of a sterilised glass cannula attached to an oxygen cylinder is familiar enough. There are certain other conditions in which the application of oxygen is less easy, and the use of certain oxidising agents may be resorted to. The effectiveness of potassium permanganate crystals inserted into a snake-bite immediately after its occurrence is known to many people who have lived in the Tropics: Dr. Scobie advocates its use in a somewhat similar way for the cure of tuberculous fistulæ.

Amongst other cases he had a male patient, twenty-eight years of age, who suffered from tuberculosis of the left lung and from two tuberculous areas in the region of the anus. These were situated to the left of the anal aperture, each being half-an-inch in length and apparently healed, but examination in a good light showed that they were still discharging a little pus: to the right of the anus there was a bluish unhealthy-looking swelling about the size of a bantam's egg, the residue of an ischio-rectal abscess which had been incised but which had filled up again. When opened it discharged a tablespoonful of thick pus. Careful probing of all three lesions did not reveal anything in connection with the bowel. The patient was in a very emaciated condition, and would allow of no further operative treatment. Crystals of potassium permanganate were introduced into the healthier of the two fistulæ after it had been carefully washed out. The patient experienced a sharp pain lasting about a minute, but there was no other discomfort; the treatment was continued for three weeks, the crystals being allowed to dissolve slowly in the feeble discharge. The result was a perfect healing of the fistula. Dr. Scobie, thus encouraged, packed the other in the same way twice a week, and in two months' time it also healed up finally. The ischio-rectal abscess was now washed out with hot, freshly made permanganate solution, the interior being thereafter filled with crystals of permanganate of potash. The cavity being larger than the others had been, the patient experienced more pain, and this lasted about an hour after the crystals were inserted but the effect on the discharge was considerable and marked. The general health of the patient continued good, and the cavity steadily shrunk up until presently there was no pus visible except at intervals of a week or ten days, and in due course the wound healed as the others had done.

Potassium Permanganate in Treatment of Cholera.

Mr. H. D. Pant, L.M.S., Lucknow, says that he called attention to the use of potassium permanganate, which he has employed for seventeen years, in a discussion which followed the reading of a paper on the treatment of Asiatic cholera by Major Leonard Rogers, at the Bombay Medical Congress in 1909. He adds the following quotation from the transactions on the Congress:—"Hypodermic injections of camphor, rectal injection of

saline solution, and teaspoonful doses every quarter or half an hour of a solution of permanganate of potash, gr. $\frac{1}{2}$ to oz., are my sheet anchors during collapse. What effect the permanganate has, and how I came to adopt it, I am unable to explain. Suffice it to say that the use of this drug has satisfied me and my patients by giving force to the wavering and flickering pulse."

R.S.P.C.A. Prosecutions at Reigate—Dismissed.

Harry Fright, of St. John's Road, Redhill, horse-keeper, was summoned for cruelty to a horse by causing it to be worked in an unfit state at Redhill on the 15th January.—Mr. G. L. Patten, solicitor, defended, and pleaded not guilty.

Inspector Tetley said on the 15th January he was in the Brighton Road and he saw a horse attached to a four-wheeled van. The horse was very lame on the off fore limb, and was in pain. The same day he saw the defendant, who said the horse had gone rather bad while they had had it. Witness referred to a previous occasion when he sent the horse home, and the defendant said he thought the shoe was then pinching it. Witness saw the horse on two later occasions, and it was still lame.

Richard A. Thrall, M.R.C.V.S., said on the 17th January he examined the animal, and found it very lame on the off fore limb, and it was totally incapable of doing any kind of work.

For the defence, James Washer, the driver of the horse in question, said on the first occasion when the horse was stopped Inspector Tetley told him that he thought it was all right for light work walking. The horse had always been walked since. On the 15th January the horse was only going a bit stiff.

Defendant, on oath, said there was no heat in the leg, and the animal did not flinch when he touched the tendons. He thought probably the shoe was a bit tight. When he saw the horse on the 15th he could find no lameness.

Charles A. Squair, M.R.C.V.S., said he saw the horse on the 19th January. It was in very good condition and he noticed it went rather stiff on the off fore limb—an altered gait, which would look like lameness to an ordinary individual, but there was no pain whatever. It was mechanical lameness. There was no cruelty in working the horse.

Herbert Sargent, the employer of the defendant, said the horse had the sprain when he bought it about nine months ago.

Alfred Glover, M.R.C.V.S., said on 22nd January he saw the horse, and he agreed with the evidence of Mr. Squair.

The Chairman said the Bench had decided to dismiss the case. The Society's costs were remitted.

Defendant was then summoned for a similar offence alleged to be committed on the 16th January.—Mr. G. L. Patten, solicitor, defended, and pleaded not guilty.

Inspector Tetley said a bay gelding which he examined was uneasy. There was a sore about the size of a shilling, and the action of the collar on it must have caused it pain. When he saw the defendant he said he saw the defendant he said he was sorry it was rubbed like it was, and if he had noticed it he would not have sent the horse out. It was caused by a too large collar rubbing on it and he had treated it by putting ointment on it.

P.C. Mann also gave evidence, and said one had difficulty in seeing the sore, as the horse was restless.

Richard A. Thrall, M.R.C.V.S., said on the 17 January the swelling on the withers was larger than a chicken's egg. He did not look at the sore. The enlargement was denuded of hair.

Inspector Tetley said the sore adjoined the swelling. For the defence, Joseph Collins, the driver of the horse, said that the sore was no bigger than a threepenny bit. The swelling was not there when he went out, and when he came back it was present; it was more prominent.

Defendant, on oath, said the collar, when it was put on the horse, did not touch the "place."

Charles A. Squair, M.R.C.V.S., said he examined the horse on the 22nd January, and it had a prominent wither. He came across a wound less than the size of a pea—a mere speck. A considerable quantity of hair was rubbed off the wither, and it was his opinion there was no swelling. With his experience he thought it was the most trivial case that had ever been brought before the Bench.

Alfred Glover, M.R.C.V.S., corroborated.

The Chairman said the Bench had decided to dismiss the case against the defendant. The costs would be remitted to the Society.

A summons against Joseph Collins, of Earlswood Road, Earlswood, for working the horse, was withdrawn.

Mr. C. Stephenson's Gift to Armstrong College.

A meeting of the Council of Armstrong College was held at Durham on Monday afternoon, February 12th, Sir Hugh Bell presiding.

Dr. Hadow, the Principal, announced that he had received from Mr. Clement Stephenson, veterinary inspector for Northumberland, an offer to give £5,000 for the proposed buildings for a new agricultural department at the College to undertake advisory work among farmers in the North of England. The scheme has been planned at the invitation of the Board of Agriculture under the scheme proposed by the Development Commissioners.

The Council accepted Mr. Stephenson's offer with cordial thanks. It is hoped that the new buildings will house the present agricultural department of the College, the head of which is Professor D. A. Gilchrist. The site has not yet been definitely fixed, but it will probably be within the College grounds.—*The Times*.

Use of Armorial Bearings—L.C.C. v. Kirk.

At the Bow Street Police Court, on Friday, 9th inst., Mr. Curtis Bennett was called upon to deal with a case, remitted from the High Court, against Mr. William Kirk, a veterinary surgeon, for using armorial bearings without a licence.

The armorial bearings consisted of the arms of the Royal College of Veterinary Surgeons which Mr. Kirk, in common with many other members of the College, had had printed on his business notepaper. As reported in *The Times* of June 10, the summons was dismissed by the magistrate, but on appeal by the London County Council, it was decided that there ought to have been a conviction, and the case was sent back for the magistrate to fix the penalty.

Mr. Philip Conway, who defended, reminded the magistrate that Mr. Kirk used the arms in consequence of permission which the Inland Revenue Authorities gave to the members some 20 years ago.

A penalty of 3s. and 2s. costs was imposed.

Arthur Chapman, a Waltham Abbey magistrate, was fined £1 4s. 6d., including costs, by the Bench, of which he is a member, for failing to notify the police of a case of parasitic mange on his premises, the Abbey Farm, Waltham Abbey. Colonel E. W. Postans, of The Grange, Sewardstone, Essex, was similarly fined for a like offence.

Donations to R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donation to the College funds from:

Mr. H. G. Bowes, Leeds	£1	1	0
Amount previously acknowledged	6	6	0
	£7	7	0

Personal.

FAITHFULL-DAVIS.—On the 9th inst., at 9 Queen Street, Hadleigh, Suffolk, to Mr. and Mrs. T. Faithfull-Davis, a son.

Mr. WALTER JAMES BEART, M.R.C.V.S., aged 74 years, of King's Lynn, Norfolk, veterinary surgeon to the late King Edward VII. from 1863–1910, left estate of the gross value of £15,184 12s., of which the net personally has been sworn at £13,331 12s. 11d.

ACCIDENT.

On Tuesday evening last Mr. E. H. Leach, of Newmarket, had attended the meeting at Norwich of the Eastern Counties' Veterinary Medical Society, of which he was elected President, and about seven o'clock was just entering Wymondham on his journey home. When nearing the bend in the road at the entrance to the town, the chauffeur, in coming round the corner, mistook the turn, and the car ran on to the path on the off side. Finding he was running into the hedge, the driver turned, and in getting off the path collided with a telegraph pole with considerable violence. Mr. Leach, who was inside the car, a Daimler landaulette, was thrown forward, his head going through the front window of the car. As it was evident that his injuries were severe, Mr. Barnard, who was on the road close by, sent into the town for a doctor, who considered it advisable to remove Mr. Leach home with all speed. Mr. Goffin, of the King's Head, accordingly motored the injured man to Newmarket in company with Dr. Maurice Hughes. Mr. Leach's car was considerably damaged, the front wheel being stripped, and the axle spring smashed.—*Eastern Daily Press*.

Indian Silahdar Cavalry.

Few of the British public, and it might be added few even of the officers of the Army outside India, know anything of the organisation of that fine body of fighting men who form that portion of the native army of India which enjoys the somewhat puzzling title of Silahdar cavalry. Of the thirty-eight regiments of Indian cavalry only three are "regular" regiments, the remaining thirty-five being Silahdar or irregular cavalry. It may be explained that the term Silahdar means in Persian an armed man, and is the name given to the Khudaspas, the horsemen who owned their own horses and weapons, and were the mounted soldiers of feudalism, the Indian Silahdar cavalry preserving in itself the last relic of feudal organisation. It will easily, therefore, be understood that the Indian cavalry soldier very naturally occupies a position of honour and social distinction, not only because of his services under the British Raj, but because he comes from the backbone of the Indian peoples, the landowner and farmer class, the sons of the soil.

The irregular cavalry is of peculiar importance in India. It is the favourite arm of the native, and attaches

him to our service by the strong ties of interest and affection, and it prevents him being engaged against us. He comes of the warrior class, one entitled to bear arms, a yeoman—that is, one who possesses property of sufficient value to enable him to ride to battle on his own horse, with his own equipment, transport and arms. In practice, however, the Silahdar no longer brings his own weapons and mounts, because it is necessary for the Service to have the most modern weapons and the best horses, but he brings the cash equivalent of a horse and baggage pony, which amount is duly paid into the funds of the regiment. This is known as *asami*, and represents the value of the property the trooper is bound to maintain in order to be an efficient soldier. He is then allotted a horse and half a share in a baggage pony or mule, and is debited with the value of the saddlery, uniform, and necessary kit, which he is usually glad to take over from the man to whose vacancy on the latter becoming non-effective he succeeds. The share in the economy and organization of the regiment which he thus acquires the trooper will have to maintain by monthly deductions from his pay and horse allowance, the subscriptions serving as a guarantee against the death of the horse and of deficiencies in, and the inevitable deterioration of, kit. All that Government does for him is to supply bandolier, rifle, ammunition, and the cost of the food of the horse and the half share of a transport animal. The heavy business of maintaining, equipping, and mounting regiments or four squadrons of 625 sabres or lances, as the case may be, devolves upon the man and upon his British and native officers. The cost of the renewal of the horse, baggage, pony, uniform, etc., is met by the man's subscriptions, which not only suffice for the purpose, but leave a surplus which forms the insurance effected by the regiment against the depreciation of its live and dead stock, and by which means some regiments amass considerable funds. When a man goes to pension or in any other way becomes non-effective he receives from the incoming recruit the value of his paid-up share in the regiment which he as a recruit purchased on the commencement of his service and now sells, with his kit and accoutrements, to his successor.

I have had the advantage of reading the opinions on this subject of Col. Norman, of the 22nd Cavalry (Frontier Force), and of Capt. Wallis, of the 20th Deccan Horse, both of whom endorse the high opinion which is so generally held of the traditions, the proud achievements, and the merits generally of the Silahdar cavalry, and of their feudal devotion to their officers. There is something financially very sound in an organisation such as this. In comparison with its cost to the Government, the Silahdar cavalry is probably the most efficient arm in the world. It certainly compares more than favourably with the three Indian regular cavalry regiments, the entire cost of which is borne by the Government. A Silahdar regiment costs annually 422,521 rupees, or some 23,300 rupees less than a regular regiment; and it has the further advantage of possessing twenty-three men, 109 horses, and 320 transport mules more than the non-Silahdar. A Silahdar regiment is self-supporting, maintaining its remounts, stabling barracks, troop servants such as grooms, washermen, cooks, tailors, saddlers, and a great part part of its conservancy and sanitation.

The system is, of course, not free from defects, such as the want of uniformity in equipment, the doubt of its ability to maintain the supply of horses in time of war, and the difficulty which many regiments experience in making both ends meet; but generally speaking, self-contained, self-supporting, loyal, and efficient, as they undoubtedly are, the Indian Silahdar cavalry regiments are fit and prepared to go anywhere and do anything. —*The Field*.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Feb. 9.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. H. Edie resigns his commission. Dated Feb. 10.

Feb. 13.

REGULAR FORCES. ARMY VETERINARY CORPS.

The following Lieuts. to be Capts. :—

H. A. Stewart, G. B. C. Rees-Mogg, H. C. Stewart, T. Lishman, R. Tindle, S. Black. Dated Feb. 13.

At an examination held at Aldershot on January 31, and following days, the undermentioned candidates were successful and have been recommended for Commissions as Lieutenants on probation :

G. V. Golding, H. E. Lewis, D'Arcy S. Beck, H. Stephenson, T. L. Shea.

The following transfers have taken place : Capt. L. M. Verney, from Bulford to Newcastle-on-Tyne. Capt. T. E. Burrage from Bulford to Woolwich for duty with No. 2 Remount Depot.

ARMY VETERINARY SERVICE.

ENTRANCE EXAMINATION : JANUARY, 1912.

VETERINARY MEDICINE.

Time allowed, Two Hours.

Maximum marks, 1,000 (250 each question).

Discuss the bacteriology of strangles, and give the general line of treatment you would adopt in an outbreak of this disease.

What are the different methods employed in the preventive inoculation for rinderpest in cattle?

Define piropilosis, and state where the causal agent is found, and how the disease is conveyed from one animal to another.

What are the generally recognised causes of purpura haemorrhagica?—and outline the symptoms and treatment.

VETERINARY SURGERY.

Time allowed, Two Hours. Maximum marks, 1,000.

Discuss the causes, symptoms and differential diagnosis of navicular disease.

What are the causes, symptoms, and treatment of traumatic arthritis in horses? Name the joints most frequently involved.

Describe fully, either of the following operations :—

(a) Median neurectomy. (b) Tracheotomy.

Discuss paralysis of the facial nerve in horses, and arrange under the following headings the principal causes and symptoms :—(a) When the paralysis is confined to one side. (b) When double-sided.

VETERINARY HYGIENE.

Time allowed, Two Hours. Maximum marks, 1,000.

What are the principles of disinfection? Describe the routine of disinfection and general prophylaxis you would adopt in a stable occupied by eight (8) horses, from which a case of sarcoptic mange has been diagnosed.

Enumerate the most common vegetable parasites affecting fodder or grain in the United Kingdom, and the general effect of these organisms on the food itself.

What are the common faults experienced in the preparation of horses feet for shoeing?

Discuss generally the following principles in the dietetics of horses:—(a) Watering prior to feeding. (b) Feeding in small quantities and often. (c) The abstention from hard or fast work following a full feed.

OBITUARY.

WILLIAM MOLE, M.R.C.V.S., 443 Bathurst St., Toronto, Canada. Graduated, Lond: July, 1876.

Death occurred in hospital on August 6, 1911. A correspondent adds:

"A few hours before he was taken to the hospital he was sure he had rabies, having been bitten about two months before. His own doctor was on his holidays, but the doctor engaged said he had one symptom of rabies. When he was in the hospital two hours, three doctors thought he had rabies, but not one had seen a case. I may say about thirty cases in Toronto and surroundings have been treated for rabies. By his death the public have been roused: and he was so widely known the public would believe his statement."

The following is from a Toronto paper:

"One of the best known veterinary experts in Ontario was removed by death in the person of Dr. William Mole, 443 Bathurst Street. He was taken to the General Hospital on Friday, suffering from severe nervous breakdown, due to overwork and died on Sunday morning."

Dr. Mole, who was 60 years of age, came to Canada to better his health in 1890, and, after two years in Hamilton, became a resident of Toronto. He was foremost in founding the Toronto Veterinary Medical Association and was identified with the Canadian Institute. He wrote extensively for numerous publications on veterinary matters. He was a Conservative, though not active in politics, a Mason, and member of St. Stephen's Anglican Church.

Dr. Mole is survived by a widow, three sons, and three daughters. The sons are William, Hugh, and Lewis, of Toronto, and the daughters, Elsie, of Calgary, and Dorothy and Nellie at home."

W. OVERED, Aylsham, Norfolk, died on Feb. 11th, at Wortwell, Norfolk. Aged 83 years.

The Late Mr. T. W. Butler.

Mr. Thomas William Butler, of Hampton, near Evesham, for many years was one of the best known veterinary surgeons in the district. He had been in failing health for the past three or four months, and for the last month had been more or less seriously ill. He attended Evesham stock sale as usual on the Monday, but had to be taken home in a conveyance, and he rapidly became worse, and passed away at 9.45 p.m. on Saturday. He was 71 years of age two or three weeks ago.

Mr. Butler was the son of a Yorkshire farmer, who somehow or other got into touch with a nobleman of Saxony, who owned large estates near Dresden. Mr. Butler's father was a very successful stock breeder, and the nobleman in question induced him to go out to Saxony to superintend his estates. Mr. T. W. Butler, who at this time was a lad, accompanied his father, who had him educated at a large college in Dresden, where there were something like sixty masters, and where the discipline and methods were very rigid. Mr. Butler always spoke strongly in favour of the system of education under which he pursued his studies, and compared it with the system of the English colleges very much to the disadvantage of the latter. Mr. Butler was in fact a highly educated man. He could speak German and French, was a good Latin, Greek, and Hebrew scholar,

and had a fair knowledge of several other languages. His scientific attainments were considerable, and he was a very clever musician, performing on the piano and violin. When he had finished his college course he entered the Army for his term of service, and it is understood that he saw active service (though upon the point we have been unable to get authentic information) in the Austro-Prussian war.

Shortly after this he fought a duel. He was dancing at a military ball with the sister of one of the officers, when someone in the company began to make disparaging remarks on the fact that he was an Englishman. Mr. Butler promptly slapped the man in the face. There could be only one termination to such an episode. Seconds quickly settled all the necessary details, and it was a case of pistols for two and coffee for one. Mr. Butler killed his opponent on the spot, with a bullet straight through the heart. He himself was wounded, but he was hurried across the frontier and got home to England without mishap. He then qualified at London as a veterinary surgeon, and commenced practice at Bengeworth, shortly before the Franco-Prussian war broke out. During the war he was commissioned by Prussian officers to buy remounts; he purchased a very large number of horses in this district, and sent them across to his father, who was still on the estate near Dresden, and who sometimes had as many as a couple of thousand remounts at a time. For some years past he has acted as local inspector for the County Council under the Diseases of Animals Acts, and was to be seen on duty at Evesham Market every fortnight. Years ago—from 1876 to 1879 he was a member of the Evesham Town Council. He was the first district councillor for Hampton, holding office from December, 1894, till April, 1898, when he was defeated on the vaccination question by the late Mr. S. Summers. He was also one of the original members of the Hampton Parish Council.

In 1888 he bought the Hampton Manor Estate from Mr. J. G. Ledsam and went to live at the Manor House, where he has resided ever since. With the Manor went the manorial rights, so Mr. Butler was lord of the manor of Hampton. He was twice married: by his first wife (a Miss Sprague, of Evesham) he had a family of three sons and four daughters. His second wife died about 1898.

CORRESPONDENCE.

USE OF THE COLLEGE ARMS.

Sir,

After reading a report of the above in *The Veterinary Record*, I must confess that I am disappointed not only with the verdict but perhaps more so with the case.

In the first place I don't think it will affect a very large number of the members of the veterinary profession who use "the arms of the Royal College" the whole of it and nothing else but it, and further are not ashamed of putting around it "Member of the Royal College of Veterinary Surgeons."

The Lord Chief Justice said, "But look at that notepaper and assume I received it. He has not put M.R.C.V.S. upon it. What is there to tell a man that is not his own crest."

Again His Lordship asks, "What there was to show, looking at the notepaper, that the gentleman was a member of the College."

A third time he says, "But here this gentleman has put within his own name a crest, and nothing in the world to show it is not his own crest, and nothing to show it is the crest of the Royal College."

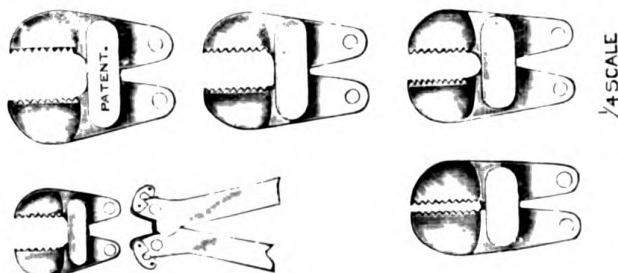
In my humble opinion this all points to the fact that if we do use the Arms of the Royal College we must have something plainly printed on to show that we are members of that College, and that it is our College crest, and we shall be all right.—Yours faithfully,

W. J.

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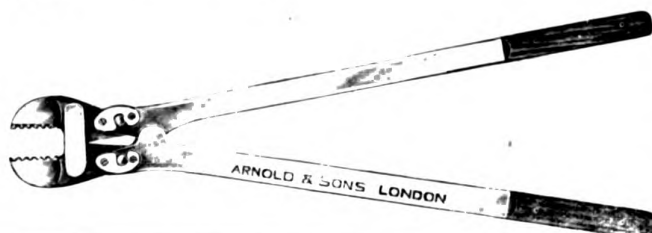
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J. F. CRAIG, M.A., M.R.C.V.S.,

*Professor of Anatomy and Medicine in the
Royal Veterinary College of Ireland, Dublin.*

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SOUTHERN COUNTY. Easily worked practice returning £650 per annum. Convenient house with good yard, stabling, kennels, etc. Rent £85 or would sell freehold if preferred. Premium one years purchase, valuation optional. The vendor is well-known to us and the practice can be thoroughly recommended.

HOME COUNTY. Practice returning £350 to £400 per ann. In present hands nearly 20 years. Small house with $\frac{3}{4}$ acre garden and good stabling. Rent £35. Premium £200.

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SOUTH COAST. Country practice returning about £835 per annum, including appointments producing about £70. In present hands 24 years. The practice has been worked by an assistant who would remain if desired. Convenient house, rent £21, larger available if required. Premium £800.

LONDON, N. Very old-established practice returning about £1200 per annum. Good house and thoroughly convenient premises, rent £90. The practice is principally horse. Receipts are increasing. Premium one years purchase. This practice is well-known to us and can be recommended

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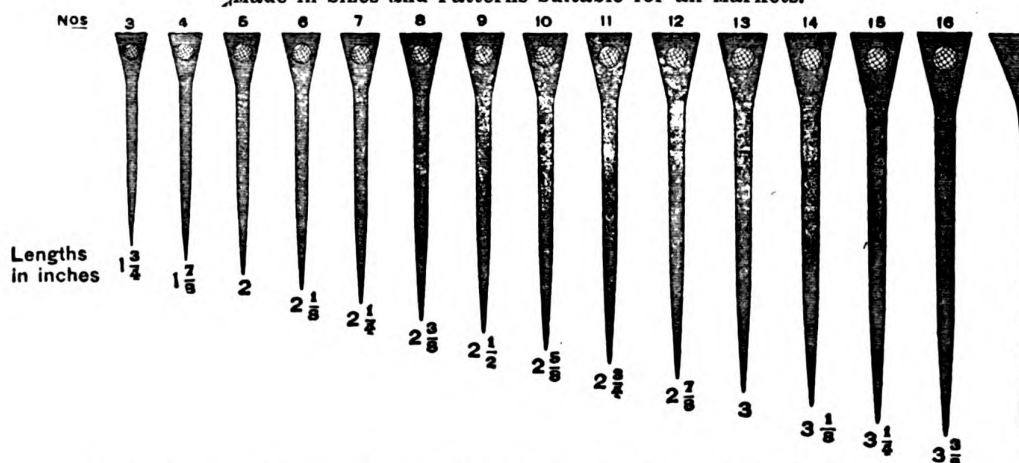
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Wanted

RECENTLY qualified man as assistant. Must have a good knowledge of dog practice and be a fair horseman. Live out. Reply, stating salary required, to 1402 V.R., 20 Fulham Rd., London, S.W.

As Assistant

CLASS D student, farmer's son, up in July, desires position as assistant in country practice, from March 16th to May 1st. Good horseman. Address, G. W. H. Ryl. Vety. Coll., Camden Town, N.W.

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QUALIFIED assistant for mixed country practice in the Midlands. Apply, stating age, height, weight, and salary to live in. References. Address, 3402 V.R. 20 Fulham Road, London, S.W.

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Assistant Wanted

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FINAL year student wants situation as assistant or improver for the six weeks commencing March 15th. Has seen town and country practice. Address, (E. R.) Royal Vety. Coll., Camden Town, N.W.

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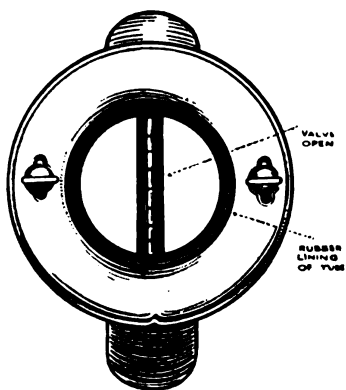
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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1233.

FEBRUARY 24, 1912.

VOL. XXIV.

PROTECTION OF ANIMALS ACT, 1911.

This Act, which we reproduced in full last week, is most important to veterinary surgeons. We should understand its provisions so that we may assist our clients. We should note also that one of its clauses does for us what the original draft of the Veterinary Bill failed to do—makes it penal for ignorant and unskilled persons to operate on animals. In another column will be found a report of the conviction of a man for burning a horse's "lampas." The exact words of the Act are "shall subject any animal to any operation which is performed without due care and humanity." Blistering, firing, and the use of caustics, employed as they often are without care, would come well within the reach of this clause. Docking, also, which now disfigures every Hackney bred animal, should afford much work for policemen and general informers.

The Act is an amending and consolidating act. It repeals in whole or part two Knackers's Acts, two Cruelty to Animals Acts, Poisoned grain and flesh Acts, Drugging of Animals Acts, The Injured Animals Act, and the Wild Animals in Captivity Act. The provisions of all these Acts are re-enacted and made more stringent. The maximum fine is now "not exceeding twenty-five pounds" and the punishment on conviction may be "imprisonment with or without hard labour for any term not exceeding six months."

There are two quite new powers given to magistrates—"power to destroy an animal when the court is satisfied that it would be cruel to keep it alive" and power to deprive an owner on a second conviction of "the ownership of the animal and may make such order as to the disposal of the animal as they may think fit."

Article 7 of the Act says, "Any person who impounds or confines any animal in any pound shall supply it with sufficient and suitable food, and if he fails to do so he shall be liable to a fine not exceeding five pounds." In the country the "pound" is generally open and visible to the passer-by, so that neglect would soon be noticed. In London the pound is replaced by "the greenyard," which is any stable selected by the police. In some cases it is alleged that animals are badly neglected in these places, but there is little chance of redress because even the owner is not permitted to see, let alone attend to his animal when impounded. This Act apparently renders the policeman liable for the feeding of animals in "greenyards."

Article 11, which re-enacts the Injured Animals Act, requires a police constable who finds an animal "so diseased, injured, or in such a physical

condition that in his opinion there is no means of removing it without cruelty" shall call in a veterinary surgeon, upon whose certificate as to its state he shall act. This throws a heavy onus upon veterinary surgeons. It is no easy task, at times, to say whether a horse is fatally injured or diseased, and any "negligence" leading to an erroneous diagnosis might end in a law suit.

Article 14 provides for an appeal from any conviction to quarter sessions.

We find no clause in the Act under which a defendant may claim to be tried by a jury, but in London the stipendiary magistrates at the outset of all cases now inform defendants that they may elect to be tried here or go before a jury.

The Act should be read by all horse-owners and veterinary surgeons. Even owners of tortoises and hedgehogs kept in a garden are interested, as are menagerie owners and managers.

IRREGULAR STRANGLES TREATED WITH STREPTOCOCCUS VACCINE.

By ALEC. KEVAN MURRAY, M.R.C.V.S., Turiff, N.B.

Subject.—A grey, Clydesdale gelding, five years old, belonging to Mr. G. Wright Newton, of Fortrie Farm, Inverkeithney, Banffshire.

On the 6th December, 1911, I was called in to the horse and found him swollen, the submaxillary gland considerably hardened, and temperature 105. Diagnosis: Strangles.

Treatment.—Poultices and fomentations to the gland, fever medicines, and mashes for food, in addition to which the patient was completely isolated.

On December 9th I lanced the abscess, and the horse was apparently getting convalescent.

On the 11th I was again sent for, and on arrival found the parotid right gland, swollen, hard, and very painful, in addition to which the right fore-leg was also swollen and very stiff.

Dec. 15th the parotid swelling had disappeared, but the hind legs were still greatly swollen and painful—the horse refusing food; temperature 106½. Treatment same as before.

Dec. 18th, symptoms much the same, with large swellings on off lumbar region, and there was considerable pain.

Dec. 20th, swellings of legs slightly diminished, but lumbar region on near side also swollen. The horse began to exhibit "colicky" pains, and it was evident that the disease by extension was attacking the mesenteric glands, the mucous and serous membranes, and internal organs, and the danger of

the horse developing peritonitis, etc., was very great. The temperature was 105.

Subsequent treatment.—The disease being of the nature of a contagious eruptive fever, and caused by a streptococcus, I determined to try Streptococcus vaccine, which I had seen recommended by Parke, Davis, and Co., in their "Veterinary Notes." Having procured a tube of ten tablets, each tablet containing 500 million streptococci, I dissolved two tablets in about 5 c.c. of sterile water and injected the solution hypodermically. I was careful not to make the injection, which was subcutaneous, in the immediate area of the infection, but at a reasonable distance away. This was on the 23rd of December, 1911, and on Monday the 25th I revisited the horse and was surprised to see all swellings gone and the horse looking and feeding well; the temperature had fallen to 103, and on the following day to 101½.

On December 29th I received information that the patient's off stifle and near fore-leg were greatly swollen, and the animal was quite off his feed, and the temperature had risen to 104½. I repeated the previous dose and the swellings entirely disappeared by January 6th. The horse quickly recovered, and has since shown no signs of refusing his food, nor has he missed a day's work.

I regard the results in this case as nothing short of marvellous, particularly as all usual treatment failed. It is the only case in which I have used Streptococcus Vaccine, but I certainly think that it should be given a trial in cases of irregular strangles.

IMPERFORATE HYMEN IN CATTLE.

This complaint is not common, and, we are told, is only seen in white and roan heifers; moreover, it is said to be most common in Cumberland. In my limited experience the latter contention is correct, for in twelve cases which have come under my notice only one occurred in another county.

Last week I was interested to hear of a heifer which showed symptoms of imperforate hymen; this animal had been straining for several days, and was evidently suffering considerable pain, which first appeared soon after copulation. On examination per vaginam the hymen could just be reached with the middle finger, so that it could not be broken down by means of the hand. A catheter was next tried, but the hymen proved capable of withstanding considerable pressure, so a trocar was cautiously introduced on the under surface of the finger. After being punctured by the trocar, violent uterine contractions were observed, and about half a gallon of fetid brownish-white discharge was passed. The contractions soon ceased, and after irrigation with a solution of lysol the animal made an uneventful recovery.

Beckermest, Cumberland.

L. L. STEELE.

ABSTRACTS FROM FOREIGN JOURNALS.

ACCIDENTS CAUSED BY INGESTION OF FOREIGN BODIES IN THE PIGEON.

Hebrant and Antoine, discussing this subject, remark that the conditions in birds are somewhat different to those in cattle, where accidents from the ingestion of foreign bodies are also not rare. In birds, the only foreign bodies causing trouble are those having slender points or cutting edges. For the most part, these consist of small nails mingled with the food, which are swallowed accidentally; and this is especially likely to occur during the hurried eating resulting from a group of birds being fed at the same time.

All the foreign bodies swallowed by birds, after remaining some time in the crop, pass into the proventriculus without producing any really serious trouble, and then into the gizzard. Here they are arrested by the grit and gravel which that organ contains; and, if they are without sharp points or cutting edges, they mingle with it to fulfil the same role of grinding the grains of the food. If, however, they possess points or edges capable of piercing the tough layer which lines the cavity of the viscus, they become penetrating bodies, implant themselves in the wall of the circumference of the circular sinus, paralyse the muscle for a certain time, perforate it, and emerge from it surrounded by an inflammatory exudate, which is fibrinous and coagulated, and always very abundant. This mass then occupies a position in the abdominal cavity, where it is often adherent to the intestines.

Usually its presence may be detected by palpation of the abdomen. A rounded body, often irregular in its surface, and slightly elastic, is felt; and this, in the female bird, may easily be confused with the fruit of an intra-abdominal ovulation. This, moreover, is the diagnosis usually reached by the bird's owner; for egg-laying is arrested, and the owner himself can feel the abnormal mass within the abdomen. In the male bird, the diagnosis is more easy. In some cases, the fibrinous mass becomes adherent to one or another subcutaneous point of the abdominal wall.

But this passage of the foreign body through the wall of the gizzard, often not far from the origin of the intestine, is only affected very slowly; and, during the period of its progress, the bird eats little, is often constipated, and becomes very thin. It may even happen that the bird dies in a cachectic condition before the foreign body has entirely traversed the wall of the gizzard.

Various foreign bodies, such as fragments of iron wire may occasion these troubles; but the authors call special attention to one, which they have found the most frequent of all in the pigeon, and which they cannot identify. This is a little steel rod of about a centimetre (= 4-10ths inch) long, square in its section, nearly a millimetre (1-25th inch) in breadth, and terminated at each end by a bifid extremity. Each of these extremities consists, in fact, of two little cutting lamellae, each in continuity with the opposed faces of the rod. These little

lamellae are about two to three millimetres (1-12th to 1-8th inch) long, and are terminated in a point. Their edges, in consequence of the thickness of the lamellae, are cutting.

For some years the authors have found these particular foreign bodies post-mortem in numerous pigeons. They have always been of the same dimensions; but despite all enquiries, the authors remain completely ignorant of their source and usage. They are not nails, and are not found in the trade of nail making. Probably they are the teeth of instruments employed by grain merchants in cleaning grain; and the authors add that pigeon owners feed their birds upon various grains, which are often of foreign origin. The authors are ignorant of the operations which these grains undergo before being placed in the market; and they consider that the origin of these foreign bodies should be sought in this direction.

Finally, the authors deal briefly with treatment. When the foreign body can be diagnosed, surgical operation is always indicated. Its procedure varies in accordance with whether the foreign body has not yet completely emerged from the gizzard, or has done so and, embedded in a mass of fibrin, is floating in the abdomen. In the first case, after extirpation of the fibrinous mass containing the foreign body, the gizzard should be sutured; and the bird should then be kept under observation to see if new fibrinous exudates, formed at the seat of operation, require to be removed. One case of this nature has been successfully operated upon by Jorisson, of Ixelles, the treatment lasting for five weeks.

In the second case, the after results are less serious; for, when the abnormal mass is removed and the abdominal wall sutured, an unfavourable result is not likely. Recently one of the authors has obtained a rapid and excellent result in a case of this nature.—*Annales de Méd. Vét.*

W. R. C.

[The authors give no symptoms likely to be very useful in the diagnosis of these foreign bodies before they have completely emerged from the gizzard.—*Transl.*]

CENTRAL VETERINARY SOCIETY.

An ordinary meeting was held at 10 Red Lion Square, London, on Thursday, February 1st, Mr. R. J. Foreman, President, in the chair. The following Fellows and visitors signed the attendance book:—Messrs. F. W. Willett, Alex. Crabb, D. Stewart, E. Lionel Stroud, P. W. Dayer Smith, Ralph Bennett, B. Gorton, N. Almond, H. D. Jones, Wm. Hunting, Prof. J. Macqueen, J. F. Macdonald, F. G. Samson, G. Gordon, Vet.-Capt. C. H. H. Jolliffe, J. Willett, J. Rowe, Prof. G. H. Wooldridge, A. L. Wilson, R. F. Wall, R. Eaglesham, A. L. Butters, W. R. Davis, J. W. McIntosh, W. L. Harrison, R. Bryden, F. O. Parsons, W. D. Halfhead, A. Rogerson, H. King, W. R. Clarke, and Hugh A. MacCormack, Hon. Sec.

Visitors: Messrs. Geo. Bailey, R. B. Wood, S. L. Slocock, G. W. Bushman, W. F. Wright, S. C. Rowbotham, and Geo. Bates.

On the proposition of Mr. P. W. D. Smith, seconded by Mr. E. Lionel Stroud, the minutes of the previous meeting were taken as read and confirmed.

CORRESPONDENCE.

Letters regretting inability to be present were announced from Messrs. J. C. Coleman, W. S. Mulvey, and S. H. Slocock.

A circular letter was read from Prof. Gofton asking for representatives to be appointed to the National Association of Veterinary Societies. It was agreed that the matter should be on the agenda for the next meeting.

NOMINATIONS.

Messrs. W. E. BLACKWELL, Norfolk House, Towcester and T. W. LLOYD, Arcade Mews, Aldershot, were nominated for Fellowship.

POST-MORTEM SPECIMENS.

Mr. H. D. JONES exhibited a fractured pedal bone. The horse being lame for some time and no satisfactory result accruing from treatment, it was unnerved. It then worked for six months, quite sound. The coronet then began to swell and the hoof to slough, and on post-mortem the pedal bone was found to be fractured, but not completely. There was a small necrosed area in the centre of the articular surface.

Mr. D. STEWART exhibited a navicular bone of a horse which had picked up a nail. The bone was in two halves; the horse was practically sound for two weeks after picking up the nail.

He also exhibited an ordinary case of picked up nail in which the horse was dead lame from start to finish.

Replying to the President, Mr. Stewart said there was no mark at all upon the coronet.

Mr. BENNETT exhibited an unusual case of fracture of the os suffraginis in the near hind of a hunter. The mare jumped short at an easy jump, fell, got up again, took three more jumps, and then went dead lame in galloping across a meadow. He saw her the next day, and found little difficulty in getting crepitation. The bone was in nine pieces.

Prof. WOOLDRIDGE exhibited the liver of a cat, a part of which was herniated through the diaphragm into the mediastinum. The cat was destroyed for pronounced wasting, the causes of which during life he was not able to determine. As the owner told him she was under treatment for tuberculosis, and the cat was coughing somewhat, he thought it was better to have the animal destroyed. On examination, at the domial cavity appeared to be normal at first sight, but on opening into the chest there was what seemed to be a growth as big as a duck's egg into the pericardium. The nature of the growth could not be determined by the naked eye, and sections were cut which proved it to be liver. One portion of the liver was herniated through the diaphragm and a portion was in front of the diaphragm, and half the gall bladder was on one side of the diaphragm and half on the other. It was a question whether it was possible for a portion of the liver to have got into the pericardium, but Mr. Gorton, who made the post-mortem examination, was distinctly of opinion that it was lying in direct contact with the heart, inside the pericardium. He himself thought it was more likely that it was lying in the mediastinum, exterior to the pericardium.

TWO REMARKABLE CASES:

PSEUDO-TETANUS, OR MUSCLE FATIGUE TOXEMIA (?)

Vet.-Capt. C. H. H. JOLLIFFE

Whilst looking through some old papers I recently came across some clinical notes which, though somewhat out-of-date, might perhaps still be of some interest, especially to the more recently qualified members of the profession. I had every intention of publishing them at the time, but pressure of work and unfavourable circumstances for writing prevented my doing so, and led to

to the notes being laid on one side and their existence practically forgotten until now.

On the 13th Sept., 1902, shortly after the termination of the Boer War, the 3rd Hussars, of which I was then in veterinary charge, started from Newcastle, Natal, to march with 200 remounts to Mooi River, a distance, of roughly 140 miles. The remounts were all in very bad working condition, having evidently been fed on soft food and given no exercise for a considerable time, and there were several casualties *en route* from laminitis, exhaustion, etc.

On reaching Mooi River on the 19th Sept., it was reported to me that there were three cases of lockjaw amongst the horses. I was at first inclined to ridicule this report, but on examining the animals I found it to be apparently correct. There were two horses showing most of the usual signs of tetanus, viz., tonic spasm of all the facial muscles, the jaws being closed to within a quarter of an inch, whilst it was perfectly impossible to force them any further apart. There was also firm tetanic contraction of the levators of the upper lip and alæ nasi, the retractor of the lower lip and orbicularis oris being in a like condition, giving a most strange appearance (*risus sardonius*) to the countenance. In one case the membrana nictitans protruded partially over the eye-ball. In both there were clonic spasms of most of the other voluntary muscles of the body; the tails were rigid and twitching; the animals were trembling violently all over, and appeared scarcely able to balance themselves on their limbs. The pupils appeared normal. The temperatures were 102° and 102·6° respectively; respirations in both cases shallow, and about 120 per minute. Pulse small and hard, and about the same in frequency as to respirations. On presenting water to them they made efforts to drink which were entirely unsuccessful. The conjunctivæ were deeply congested.

The third horse showed similar symptoms including trismus, but in addition, he was down, unable to rise, and in a state that could not be described otherwise than that of violent convulsions, and being apparently quite *in extremis*. I had him destroyed at once.

The other two, despite protests from some officers of the regiment, I decided to leave till the morning, but was unable to adopt any treatment (for which, possibly, they were all the better).

The history was the same in all three cases. The horses had started in the morning apparently well, but had been showing signs of considerable fatigue on the two previous marches, and on this day they had only with extreme difficulty been got into camp, their riders being compelled to dismount, off saddle, and drag them along the last few miles. As soon as they had stood still for a short time these remarkable symptoms commenced.

I regarded it as a most extraordinary and unparalleled occurrence that there should suddenly be three cases of tetanus simultaneously occurring at the same moment and all in precisely the same stage of the disease, but it was nothing to my astonishment when on visiting the two survivors the following morning—some ten hours later—I found both patients feeding eagerly and exhibiting every sign of perfect health! They trotted up freely and appeared as bright and cheerful as any horse one could wish to see, all trace of the urgent symptoms shown the previous night having completely vanished.

The horses did no further marching, but were left at Mooi River and remained perfectly well, passing out of my hands some three days later. Moral—never be over-hasty or over-certain in your diagnosis, nor yet place too much reliance on the value of your treatment, which in three cases consisted solely of rest and fresh air, assisted by that propitious and ever-present agency—*Vis medicatrix nature*.

Concerning the possible pathology of these cases, it is evident that they had no connection with true tetanus. The symptoms shown must have been due either to strychnine poisoning or to some other unknown and unrecorded vegetable poison peculiar to Natal, or else, as is more likely, they resulted from long-continued and gradual fatigue in horses in an unfit condition. Their pace never exceeded a trot, and about nine-tenths of the march was done at a walk.

Now in most cases of extreme over-fatigue, the animal is probably travelling at considerable pace, and blood deoxygenation and impending heart failure compel the animal to stop before a state of absolute muscular exhaustion is arrived at. In the horses under discussion the pace was insufficient to produce either "auto-asphyxia" or cardiac syncope, and the voluntary muscles, for which periodical rest and recuperation are necessary, were thus forced to work on until their very last grain of energy was expended.

Physiologists have shown that precisely the same changes take place in muscles during muscular contraction as occur after death (only in a more extensive degree) in *rigor mortis*.

Starling states:—"In *rigor-mortis* chemical changes take place; muscle which was previously alkaline becomes acid, the acidity being due to the formation of an excess of sarcolactic acid. At the same time there is a production of CO₂ and an evolution of heat."

Again, when speaking of muscular contraction, or muscular energy, during life, he states:—"When a muscle contracts there is an increased formation of CO₂ and sarcolactic acid, and an increased consumption of oxygen."

It is thus apparent that if muscular exertion be gradually carried to an excessive or extreme degree, chemical changes will take place in the muscular system which in no way differ from those occurring in the rigid and tetanised condition known as *rigor mortis*. This is further supported by the fact that when animals are hunted and killed after a prolonged pursuit, *rigor mortis* sets in instantaneously, it being well known that foxes and hares killed under these circumstances have been found perfectly stiff and rigid, and capable of being propped up erect on their legs the very instant after death has taken place.

It therefore seems probable that extreme muscular exhaustion or "muscle-fatigue toxæmia," accentuated, no doubt, by unfit condition, is accountable for the curious phenomena observed in these cases, though the remarkable coincidence that these horses should have been attacked in identically the same manner, and on the same day, is quite beyond the bounds of explanation. I have never heard of any cases of this nature having been previously described, which is my excuse for publishing these notes.

DISCUSSION.

The PRESIDENT doubted whether these were cases of muscular fatigue, because in his district he often saw horses that were absolutely worked to a standstill, even to such an extent that they had to be destroyed, but he had never seen a case approaching those described. He should like to know whether the horses had been traveling close together, or in the same troop.

Captain JOLIFFE said the horses were not together, as they belonged to different troops. He enquired from various people whether there was any poison in the country which would produce symptoms of the kind, but nothing was known. He also enquired whether nuxvomica grew anywhere in the neighbourhood, as it looked somewhat like strychnine poisoning, but could obtain no knowledge of the plant growing in South Africa at all.

Mr. J. WILLETT asked whether there had been any other cases at the time in South Africa.

Capt. JOLLIFFE said he had not heard of any, although he enquired.

Mr. ALMOND asked whether a post-mortem had been made on the horse that had been killed, and whether the spasm were intermittent as they usually were in tetanus.

Captain JOLLIFFE said no post-mortem was made, and the spasms were more or less continuous. The only exception to the clonic spasms was in the muscles of the jaws, which had tonic spasms. The jaws were absolutely locked to within a quarter of an inch.

Mr. EAGLESHAM said he had seen in this country in ponies conveyed by rail symptoms similar to those shewn in Captain Jolliffe's three cases. Six Welch ponies that had been bought at a fair in North Wales and conveyed in a cattle truck to a midland county during severe winter weather, when unloaded were all found to be suffering from spasms of the muscles of mastication with chattering of the teeth, the jaws being almost fixed, and could not be forced open. The membrana nictitans was not affected, nor the muscles of the tongue, pharynx or larynx, for they were able to swallow liquids given in drench. Stiffness of the muscles of the neck with protrusion of the nose was noticed, and the muscles of the body were somewhat rigid and drawn, but did not show that hard and tense condition found in tetanus due to the tetanus bacillus. The pulse, temperature and respirations of the animals remained normal, and with treatment and warmth they were all well again the next day. The condition of spasm of the muscles was, he thought, brought about by exposure to cold and want of food, and was not due to the toxic infection of poisons.

MOTION BY MR. J. WILLETT.

"To discuss the unfair treatment meted out to our Profession when giving Expert Evidence in Police Courts."

Mr. President and Gentlemen,—I make no apology for bringing this subject before the meeting, for I am sure you will all agree with me that the treatment meted out to us at the Police Court leaves something to be desired, and also that the strictures passed upon different members of our Profession, by more especially, the Metropolitan Stipendiary Magistrates are becoming more frequent. These reflect on us as a body, and owing to the wide publicity given to them in the Press, act adversely on us in the eyes of the general public, and tend to discount our evidence in future cases. I am therefore hoping that the discussion to-night may be useful, and that at the end, some resolution may be drafted, and forwarded to the other Societies asking for their support in any action we may take to counteract these statements.

I expect you have all read in the proceedings of the last Council Meeting of the R.C.V.S., published in *The Veterinary Record*, that a letter had been received from the London Master Carmen and Contractors Association, complaining of injustice owing to the conflicting evidence of Veterinary Surgeons, it therefore makes it imperative that we should do what we can to avoid such charges in the future.

I do not purpose giving you a long paper, but will content myself with a few points that might be advantageously discussed and no doubt you will be able to add many more.

The treatment of the animal while in the custody of the Police. Should the horse be taken to the "Green Yard" for the night, in the majority of the cases I have seen, it is brought up the following morning to the Court uncleaned, and should it have been very hot or wet the previous day, it gives the animal a miserable and unkempt appearance (no matter how good the condition is) that must prejudice it to a certain extent in the eyes of the magistrate.

The evidence of the Police Constable or R.S.P.C.A. officer is more often than not that which should only be given by a veterinary surgeon; not only that, he enumerates all the defects he finds, or he thinks he finds, on the animal irrespective whether they are causing the alleged cruelty or not, without let or hindrance from the magistrate or his clerk. I maintain that this should not be. It should be quite sufficient for him to mention the particular limb the animal is lame on, or the position of the sores, as the charge may be.

Expert Evidence. This is a matter that directly concerns ourselves, and I wish to be careful to explain that any remarks I make are general, and no personal reflection on any one.

The system of one particular veterinary surgeon being attached to any court, (by being attached, I mean seeing every case charged there) and giving evidence on behalf of the Police, is not a desirable one, for it has a tendency to make him dogmatic in his evidence, and perhaps unconsciously biased. Then the magistrate seeing that particular expert day after day relies on his evidence, often to the detriment of the opposing expert, here, again, I have heard the expert enumerate defects on the animal which are not the subject of the charge, and which the one opposing should not be called upon to answer.

The mode of Examination. I have seen horses examined immediately previous to the expert giving evidence on oath, much more superficially than if the examination had been to diagnose the lameness for a client.

There is a tendency in these cases to fix on the obvious and search no further. For instance, how many horses there are working to-day who have, we will say, both ringbone (or sidebone) and corn on the same limb, yet the corn is not searched for, in fact I have seldom seen the shoe removed at the Police Court, yet in private practice one would seldom or never give an opinion until after the foot had been examined.

Then there is the question of sidebone and ringbone lameness. How often the opinion is given, that the horse must have been lame some considerable time, in other words, implying to the magistrate that there had been cruelty over a more or less lengthened period. This opinion in many cases needs qualification, for we all know how possible it is for a horse with either of these to work for years without going lame, until one day he may step on an uneven stone and go suddenly lame. This evidence when given, may, and often does do an injustice to the owner, by causing an adjournment for either himself or his horsekeeper to be summoned with the driver, and these are the cases that are the hardest for the opposing veterinary surgeon to combat.

Then there is the question of mechanical lameness. We all know that some magistrates will not listen to the defence of mechanical lameness, yet they must know many human beings who are mechanically lame.

The veterinary surgeon for the prosecution, in my opinion, acts in a dual position, one of which is apt to be lost sight of, and that is he acts as veterinary adviser to the magistrate morally, if not legally, more especially those veterinary surgeons who act for the Police in each case at that particular court, for there is no doubt the magistrate relies on his evidence. Under these circumstances he should be careful there should be no exaggeration in his evidence, in fact, I go further, and say that should the officer who has brought the charge exaggerate in his evidence, it is his duty when in the witness box to correct this.

Finally, there is the veterinary surgeon for the defence. How is he treated? Very often not allowed to examine the subject of the charge without the veterinary surgeon for the prosecution is present. In the court he is treated as of no account by the officials, herded with

the people at the back of the court if he is in a district where he is not known, and subjected to many petty annoyances, and when in the witness box his evidence is treated with very little consideration.

A well-known K.C. once said there were three classes of witnesses—liars, liars with an accentuating adjective, and expert witnesses, and it is evident from the observations frequently made by the magistrates he puts us in one of the first of these.

Why are we treated in this manner? There is no doubt there are cases where the evidence given for the defence has not been in accordance with the facts, yet there are so many differences of opinion—and honest differences of opinion as to lameness, both as to duration and degree, that we should not all be condemned as a body because of this.

Other experts in the different professions disagree and are not subjected to the insulting remarks we have to submit to, then why should we submit to them without a protest?

The magistrate has the power to call in a third opinion when two experts disagree, but this power is seldom used in our case, although I venture to say it is the most satisfactory way of dealing with conflicting evidence, and should be made compulsory.

DISCUSSION.

Mr. McINTOSH said the profession was unanimous in its desire to assist any reasonable measures for promoting the comfort and happiness of domestic animals, and he was quite sure no veterinary surgeon would ever think of shielding anyone who, by wilful intent, carelessness, and indifference, subjected animals to cruelty. But his observations and experience in the Courts of London had shown him that the methods adopted by the authorities in initiating prosecutions were absolutely unfair, and a disgrace to British justice. The evidence of police officers and the R.S.P.C.A. officers—and about the latter he had not the same complaint to make—was in the majority of cases so grossly exaggerated, and so inaccurate, that it was almost impossible to recognise the animal when one went to see it, and he was sorry to say there seemed to be no difficulty in getting members of the profession to support evidence of that kind. Most of us had probably noticed the degree of confidence with which these officers gave their evidence; there seemed to be no doubt in their mind as to the existence of lameness and the degree of suffering, they had no difficulty in finding the cause of the lameness, and they are quite certain as to how long it has been in existence. In the case of a sore they are equally confident, and can actually see pus oozing from the surface of a wound which has only been in existence for a few hours. Unfortunately those men had the ear of the Court, while veterinary surgeons called in for the defence were invariably treated as hostile rather than professional witnesses. In addition they are very often kept hours waiting to suit the convenience of the police veterinary surgeon, during which time they are allowed the privilege of a seat amongst the frequenters of police courts, whilst the police veterinary surgeon on arrival is shown into a favoured seat in the well of the Court. We have a right to equal respect and courtesy from the Bench as professional men, and it is our duty to demand it. Nobody can object to a fair representation of facts, and nobody wants to. A fair trial was not obtained at police courts, at any rate as far as horse cases were concerned. Then the conditions in the greenyard left much to be desired. A horse was taken there and allowed to stand all night practically unattended, and no attempt was made to alleviate the suffering—assuming there was any. It was certainly not groomed, and it was a question whether it had anything to eat or drink, and very rarely did it get bedded. Next morning it was brought

to the Court and very often kept standing in the cold for hours, and naturally presented a very miserable appearance, which seemed to be partly the object. That was surely most unfair to the man who was being tried. He mentioned a case in which a man was fined for working a horse in a lame condition. There was a remand in order that the owner might be summoned. The animal was certified as lame, and it was said the lameness had been in existence for several days. The owner was held to have known this, and was therefore convicted. The animal was discovered afterwards to have a fractured navicular bone which had occurred in the course of the journey—an accident over which the owner had no control; and many similar cases could be mentioned. He urged the Society to take steps to see that veterinary surgeons who appeared for the defence in police courts had those rights and privileges to which they were entitled as members of an honourable profession, as it was clearly their duty to afford all reasonable protection to the owners of animals.

The PRESIDENT said he had had three nasty experiences in Police Courts, when he had been spoken to very roughly by magistrates, and was once ordered out of the box. In one Police Court a case came up in which he had performed the French lateral cartilage operation about three months before and had told the owner to have the horse shod at the same forge, where he instructed the man how to put the shoe on. To save a few pence, the owner had the work done by a local man, and a very unsuitable shoe was put on, with the result that the horse went lame immediately after being shod, although he had been going well for about a month. He appeared to give evidence for his client and the magistrate was very nice, and asked him if it was the operation that had been done on a certain stallion a few months before; there was quite a long conversation, and he thought the case was won as the magistrate showed such knowledge of the operation. But to his surprise the magistrate said it was quite evident he (the President) was just practising to gain experience! (As a matter of fact he (the President) had done about twenty cases, and most of them had been successful). Being rather cross he spoke up sharply, and was told to sit down or he would be committed for contempt. The client was fined £5 and costs, and the magistrate remarked that if he had not been misled by his veterinary surgeon he would have sent him to prison! In another case he was ordered out of the box by the magistrate because he alluded to a certain thing as a "Police Court trick." As to the greenyards, he believed it was possible in the majority of cases to send a man to feed and groom the horse; at least that was very rarely objected to in his district.

Mr. McINTOSH said the police would not allow it in the majority of cases.

The PRESIDENT said he told his client to feed and clean the horse night and morning if the case was held over. He could bear out Mr. Willett that ringbones, strained tendons and shot fetlocks were very great favourites with the prosecution as the cause of lameness, though it often turned out to be a suppurating toe or corn that required treatment. As a rule he refused to go into Court, telling the client to plead "Not Guilty" and then withdraw the plea and have the case dealt with at once, and that appeared to him to be about as good advice as could be given in the present day. Magistrates' clerks and many of the magistrates seemed to think, and sometimes say, they know about a case better than any veterinary surgeon, and they will not allow a veterinary surgeon to plead for his client.

Mr. ALMOND asked whether there was any way of convincing the magistrates that they were not expert veterinary surgeons.

The PRESIDENT thought there was not, though he had

tried to do it privately once or twice. When once a layman began to think he knew something about a horse he was as bad as a "doggie" man.

Mr. F. WILLETT thought the discussion was very opportune, as the penalties under the new Act were much more severe. He understood that from the 1st of January the maximum fine was £25 or six months' imprisonment. Only a short time ago a client of his had two pair-horse vans stopped and the horses taken out and sent home. It seemed that one of the drivers had been knocking a horse about and had been summarily discharged that morning, and for spite made a complaint to the police about the firm's horses. In his own district there was a policeman whose speciality was horse cases; and in every case the Bench listened to him; usually it was little use the veterinary surgeon appearing for the defendant. This officer stopped the vans on account of three of the horses. One had a sand crack that had been clamped, and was going sound but a little on her heels. Another had the head of a small pimple rubbed off on the wither, which could be covered by the end of a lead pencil, and the third had a small abrasion on the shoulder the size of a threepenny piece, for which the collar had been well eased. One of the magistrates came down to the greenyard shortly after the horses were stopped and saw them in his presence. When he explained to the magistrate that the mare had been treated and was perfectly fit to work, and that the other two cases were most trivial and should not have been stopped, nothing more was heard about any of them. This was fortunate, as it might have been most serious for the owners had the cases been proceeded with.

Mr. WALL thought that a number of horses stopped for cruelty were not stopped solely through the humanitarian feelings of either the police or the Society's officer. He certainly thought the profession should take some stand for more consideration in the Police Court, if only to prove that veterinary surgeons were dead against cruelty. It was a difficult matter to make a magistrate believe the defendant veterinary surgeon, because certain gentlemen who regularly attended the court had the ear of the Bench. He had tried to think out some suggested remedies. The local authority might appoint a veterinary surgeon to a court to examine all cases, or the veterinary surgeons in the district might be called upon in turn, or, what seemed more practical, all cases which were stopped might be taken to the nearest veterinary surgeon, or if he could not be found, to the next nearest one. The majority of the profession would willingly give gratuitous advice to the officer as to whether it was a case for prosecution or not. He thought if the police and the R.S.P.C.A. were approached with some such suggestions a practical working arrangement might be come to. He endorsed the remarks that had been made with regard to horses taken to greenyards. As a rule the animal was given little to eat and drink, had very little attention paid to him, and was given no treatment whatever for the relief of pain. He had often wondered whether the officer in charge of such a case could not himself be prosecuted for cruelty. He remembered one case in which a horse was stopped and walked nearly two miles to the greenyard which he reached between two and three in the afternoon: he was kept at the greenyard the whole night. On seeing him about five o'clock the same day, he suspected a fractured pastern, and asked if the horse could be put under treatment, but that was not allowed. The animal was then walked between two or three miles, dead lame, to the Police Court, and stood in the Police Court yard from before ten o'clock in the morning until nearly four o'clock in the afternoon without the slightest shelter on a cold, wet day. The driver of the animal was fined for cruelty. He told the magistrate quite clearly what he thought about the matter and very nearly got committed for con-

tempt of court. He proved afterwards that the horse had a fractured pastern. In the case of another horse that was stopped, he told the inspector the horse was in terrible pain and asked to be allowed to take the shoe off, suspecting something in the foot. The request was refused. He asked that a local veterinary surgeon might be called in at his expense, but that was refused. There was much more cruelty inflicted by those who professed to suppress it than by those who were charged with it. At the majority of police courts the yards were uncovered, and horses could be seen day after day standing there shivering with cold, and frequently were taken ill as the result of the exposure. The treatment of the veterinary surgeons at police courts was very off-hand. The veterinary surgeon for the prosecution was listened to and kowtowed to more or less, but the moment the veterinary surgeon for the defence went into the box the magistrate started writing or looking round the court, and in some cases the magistrate had gone so far as not to allow a veterinary surgeon to get into the box at all. It was imperative that the profession should do something to assert its rights, not only for its own sake but for the sake of its clients and for the sake of the animals!

Mr. ALMOND thought the profession was very well convinced of what took place and the discussion should be directed to finding a solution. It seemed to him that many of the cases were very trivial and many of them unwarranted, and the question was whether there was any interest other than a desire for avoiding cruelty in the prosecutions that took place. In the London district he had only been concerned with one case, which he thought was a very good one, but he was opposed by a veterinary surgeon who was a frequenter of the Police Court, who presented the case in an utterly false aspect and controverted everything which was said for the defence. He thought no consideration should be shown to men who disgraced the profession by upholding prosecutions by what was absolutely false evidence. With regard to the attitude of magistrates towards veterinary surgeons it would appear that they took upon themselves to decide questions for which they had no qualification whatever, and there ought to be means for bringing magistrates to their senses.

Mr. W. R. DAVIS mentioned that the Chairman of the Bench in his district told the inspector that his business was not to get convictions but to stop cruelty. It was the intense desire to get a conviction that caused the trouble, and the Society upheld its inspectors in that matter. Police officers, in his experience, were not nearly as bad in exaggerating a case, because as a rule they had not such a frantic desire to get convictions.

He had known of a veterinary surgeon standing in the road watching for lame horses and calling the inspector to stop them. He thought the veterinary profession should reform itself before attempting to reform others. He had seen a man get into the witness box and swear he could feel "eat in the 'ock"! He did not think a magistrate should listen to a police officer who said that with his horny paw he could feel "eat" in a "ock." In his opinion the alleged presence or absence of heat in a part of which so much was made in many of these cases was absolutely useless as evidence—he always told the magistrates that he attached no value whatever to supposed differences of temperature of the parts.

A good many cases were spoilt by the way the evidence was given. Whenever he went into the witness box he never went to the full length of saying that the horse was perfectly sound and all the rest of it. Because one side exaggerated there was no reason that the other side should do so.

Prof. WOOLDRIDGE thought the solution of the difficulty very largely depended upon the profession itself, and it was a difficulty the profession was responsible for. In the first place he thought the whole trouble had

arisen from the fact that often members of the profession on either side exaggerated in the witness box to the very utmost degree. In those instances where the magistrate had exerted his powers and asked a third party to examine, true justice had no doubt been done. It was the duty of the veterinary surgeon to assist his client, but not at the expense of truth. If a veterinary surgeon would go into the box and give his evidence on the case as he found it, without exaggeration and without minimising cruelty, then the treatment of the profession by magistrates would be quite different. A magistrate was a layman who had no expert knowledge on the case, and had to come to a decision on statements of facts submitted to him on oath. He found that skilled persons would give diametrically opposed views, exaggerated to such an extent as to be absolutely beyond reconciliation. If he were in the magistrate's place he should say, "I cannot believe any of you because I do not know which of you is right and which of you is wrong." But such an occurrence did not in any way justify wholesale condemnation of a profession. There are black sheep in every flock, even amongst lawyers. He sympathised very strongly with those who had been in the box and had been met by a magistrate as hostile witnesses before they had had an opportunity of giving their opinion for the defence. He had had the same experience himself. He had gone into the witness box for the defence on some occasions, not to say that the horse was fit for work at that time but in order if possible to show that the horse although lame was not necessarily so bad that it should be destroyed; and before he had been able to give the evidence at all he had been met in a very hostile spirit by the magistrates, but after giving evidence they had generally been much more courteous. If a veterinary surgeon was obviously telling the truth without exaggeration the magistrates were very willing to listen to him.

Prof. MACQUEEN asked how the magistrate was to know that.

Prof. WOOLDRIDGE said he could very often see it in the attitude of the person before him.

The PRESIDENT read a newspaper cutting of a case that had recently been heard before Mr. Plowden.

Mr. W. HUNTING said veterinary evidence was often very controversial in Courts of Law, and there might be men on each side absolutely contradicting each other. Not long ago there was a case in which six men said that a mare had ringbone and another six said she had not. Who was to decide? There were tremendous difficulties in all these questions, difficulties arising sometimes from misuse of words and sometimes misreading of symptoms. For instance, as to misuse of words, what was a ringbone? One man went into court and said the horse had a ringbone and the other said it had not, and all the difference between the two was that there was some bony enlargement on the pastern which the one man wrongly called ringbone, while the other said there was no such thing because there was no articular mischief. They did not explain, and were not asked to explain. If there was a solicitor or counsel in the case the endeavour was to make the man swerve in one direction or the other. One's own counsel enticed one to say more than one wanted to, and the opposing counsel might get one's back up by suggesting something which made one go a little bit further in the other way. It made a lot of difference with some men whether the horse at a Police Court belonged to his client or to another man's client.

It was not only the policeman or the Society's officer who exaggerated but members of the profession—and he included himself amongst them. For years the magistrates of London had had a certain training in the matter of cruelty, having had cases brought before them pretty well every day, and they naturally noticed the exaggeration. It was strange and almost inexplicable

how a magistrate in a criminal case, in which a man might be sent to prison, reversed the ordinary maxims of English law—that until a man was proved guilty he should be assumed to be innocent. With regard to symptoms and the different ways in which they were interpreted, he remembered once at Marlborough Street Mr. Hannay, who was a very good magistrate, saw a horse with a slight abrasion caused by the belly band, and he adjourned the case for the owner to be summoned. The owner asked him (Mr. Hunting) to go with him, and all he could see was a bit of bare skin with some hair half rubbed off. The magistrate looked at it and said he did not think there was much wrong with it and then unfortunately put his finger on the hairless spot, it happened to be a "squealy" mare, and you may imagine the result! He turned round and said, "poor thing, it is still very sensitive," and went into the Court, and without hearing a word from the defence fined the man 40/- and costs.

Then there was flinching. A horse might be found with old scars on his neck or back. Probably he had had a bad time on some occasion or other, and for years afterwards the finger only had to be put on his neck or back for him to flinch and shudder, giving the novice the idea of pain. It might be safely said that in the case of scars there was no pain at all, but simply remembrance by the animal of the time when they were painful. Then there was chronic thickness of joints and swelling of limbs, very few of which he thought caused any pain at all. He was inclined to think a man was perfectly justified in working a horse with chronic grease, because if he left it in the stable it would get worse every day.

In stiff joints the difficulty was to know whether there was any articular mischief going on. There were some clear cases of a stiff knee almost half fixed by fibrous ankylosis. In those cases there were distinctly symptoms of mechanical lameness, and yet Mr. Montagu Williams once told a veterinary surgeon at Wandsworth that he need not come and tell lies, because if the horse was lame he was in pain. It was impossible to argue with a man like that. Mr. Williams must himself have known half-a-dozen of his own friends who had mechanical lameness, and yet he would not apply that knowledge to the horse.

The omniscience of some of the men who gave evidence as to the duration of little ailments was sublime. "How long has that sore been there?" "Months!" "How long has this spavin existed?" "So long." He saw a case not long ago which he thought was very instructive—a horse that suffered from false ringbone and every now and then went lame. He went lame on a certain occasion, and cold water bandages and rest put him sound again, but the first day he went out he fell lame and was stopped, and the veterinary surgeon said he was lame from ringbone, and the ringbone had been there three months.

In the greenyard there was a lot of cruelty permitted, probably in ignorance. In one case a horse was stopped on the Saturday, and he saw it and thought there was something wrong with the foot, and asked to be allowed to have the shoe off, in fact he took a farrier with him, but he was not allowed to do so. He could obtain no order from the Police Station to be allowed to touch the horse. When the case came on on the Monday it had broken out at the coronet, and the horse must have suffered very great pain for thirty-six hours. Mr. De Rutzen heard the case and dismissed it, but he was a magistrate in a dozen; the other eleven would have fined the man, and condoned the cruelty in the greenyard.

There were some cases, he thought, in which a man ought to be ashamed of himself for the evidence he gave. In the case that had been before Mr. Plowden recently he had thought there could be no mistake, but three days ago he was shown a horse which ran out quite

sound, and he was told that evidence had been given the previous day in Court that it was lame.

He suggested the formation of a small Committee of the Society to see if there was a possibility of obtaining any remedy. If he were a horse-owner he should try and get up an Association for the protection of horse owners, because under the new Act prosecutions are a very serious matter. A man with a large stud of horses might be fined, and the second time get a full penalty, and the third time somebody had to go to prison. Three cases in a year in a stud of 500 or 600 horses was not at all unlikely. He thought the Act of Parliament had slipped through without the slightest notice being taken by the public or by horsemen in the Commons.

Mr. UPRON thought the remedy rested with veterinary surgeons themselves. He believed one man would swear black was white against his neighbour, at any rate that was his experience of veterinary surgeons. They either did it for money, self-aggrandisement, or spite. The young men who were now being turned out by the College did not try to help a man who was working in the cause of truth or for the benefit of the community at large; if they could secure a client they would work against any member of the profession. He wished they would remedy that state of things at the College.

Prof. MACQUEEN said if the main idea of the discussion was to show the British public that veterinary surgeons were first of all concerned with the prevention of cruelty, the proper procedure for the Society to enter upon was to approach the police and the Society for the Prevention of Cruelty to Animals. There was no reason why a representation should not be made to the Chief of the Metropolitan Police, Sir Edward Henry, who no doubt would be quite amenable to any useful suggestion as to the management of horses that were kept in greenyards. He was a man quite above the average on the question of cruelty, and if he were shown satisfactorily that horses were exposed to severe hardships when awaiting the trial of a case, no doubt he would give instructions to make some alteration which would be beneficial to both sides. The Society for the Prevention of Cruelty to Animals had a Committee upon which there were two veterinary surgeons, Major-General Smith and Mr. Stewart Stockman. If proper representations were made to that Committee they would probably consider some of the objections that veterinary surgeons had to make against the alleged exaggerated evidence given by the Society's officers.

With regard to the attitude of some of the magistrates, he was afraid that very little could be done. The magistrate in cruelty cases did not assume any different condition of mind from that which he assumed in connection with any other kind of case. The magistrate had to rely entirely on the evidence given for and against the individual in the box. He believed one magistrate had said that he would not believe all the veterinary surgeons of the Royal College if they were brought before him, but that no doubt was said in the heat of the moment. He did not know that veterinary surgeons had statutory employment in Police Courts, but some of them were certainly so frequently there as to lead one to think they were officers of the Court. When they went into the box they were received with great respect, partly due, he believed, to their very excellent knowledge of the art and practice of their profession—and it might be also partly due to an overweening desire to assert the truth on every occasion. Sometimes that truth might be misplaced, but at the same time the magistrate, from long experience of these gentlemen, believed that they were thoroughly reliable. The veterinary surgeon for the defence might be an entire stranger, perhaps not very prepossessing, and often gave his evidence in a jumpy sort of manner which upset the magistrate, and the magistrate accepted the evidence of the known veterinary surgeon, and fined the

defendant. He could only judge from what was brought before him. He thought nothing could be done to improve the magistrates. The profession must improve itself. In this democratic age a man who had to live by his profession could not be too particular as to the evidence he might give on these occasions. He suggested that the Committee Mr. Hunting had proposed should be empowered to make representations first to the Chief of the Metropolitan Police and afterwards to the R.S.P.C.A.

Mr. A. L. WILSON said he had had very little to complain of in the matter of magistrates, having always been met with courtesy. Perhaps that was partly due to the fact that he always took a very moderate view of the cases and never tried to exaggerate his evidence. There had been a good deal to complain of in the conduct of the police. For instance, a carman was locked up in the cell and could not be seen except in the presence of a policeman, and the horse was not allowed to be seen for several hours. The horses in the greenyard were shamefully neglected, and no facilities given to the defence.

Mr. ALMOND proposed that a Committee be formed to deal with the matter.

Mr. WALL seconded the motion, which was carried unanimously. The Committee was nominated as follows: The President, Messrs. J. Willett, McIntosh, Hunting, Profs. Wooldridge and Macqueen, Messrs. H. G. Simpson, D. Stewart, and Capt. Jolliffe.

The PRESIDENT, replying to Prof. Macqueen, said he thought the Committee would do the best they could, and report progress at the next meeting. They would no doubt draft a letter asking for an interview.

Mr. MCINTOSH suggested the Committee might be empowered to go to the Home Secretary if they thought it necessary.

Mr. J. WILLETT agreed. He did not think the Commissioner of Police had anything to do with magistrates. He thought if the Home Secretary suggested that magistrates should always call in a third opinion a better state of things might be brought about. The third man might be paid by the loser of the case.

Mr. HUNTING thought it would be better to have the matter very clearly set down. He understood the Committee was formed to send a letter to the R.S.P.C.A. and to the Chief of Police. Were the Committee empowered to approach the Home Secretary over the head of the Chief of Police. [No!]

The PRESIDENT said if no satisfaction was obtained from the Chief of Police the Committee should go on to the Home Secretary.

Mr. HUNTING said his idea was that the Home Secretary ought to be approached afterwards, and not at the time the Committee was communicating with his second in command.

It was agreed to leave the Committee to discuss the matter and take the best steps possible in the interests of the profession, and report again to the Society.

On the proposition of Mr. Willett, seconded by Mr. McIntosh, a vote of thanks was accorded to those Fellows who had brought forward post-mortem specimens; and on the motion of Mr. Butters, seconded by Mr. MacCormack, a vote of thanks was accorded to Capt. Jolliffe for his paper.

HUGH A. MACCORMACK, Hon. Sec.

Voltaire's famous description of medicine as consisting in the introduction of drugs the properties of which are little known into bodies of which we know still less, is only a paraphrase of Senac's statement made in 1749 that those who are lavish in the administration of remedies know neither the causes they wish to combat nor the weapons they use.

YORKSHIRE VETERINARY MEDICAL SOCIETY.

The annual meeting was held at the Hotel Metropole, on Friday, Jan. 26th, when the following members were present: Mr. A. McCarmick, President, in the chair; and Messrs. A. W. Mason, H. G. Bowes, G. C. Barber, S. Wharam, Leeds; P. Deighton, Selby; M. Robinson, J. A. Hodgman, Barnsley; Robert Cockburn, Eastwood, Notts; H. M. Holland, Keighley; J. McKinna, Huddersfield, F. Halliday, Dewsbury; F. W. Pawlett, York; J. Clarkson, Hon. Sec., and others.

The visitors included Mr. W. Woods, Wigan; Mr. Shipley, Yarmouth; Mr. F. W. Garnett, Windermere.

After the Secretary had read the notice convening the meeting, the minutes of the last meeting were taken as read and duly adopted.

Correspondence. This included a letter received some time ago from the Sanitary Institute. The Secretary pointed out that it had been decided at the last meeting to bring the matter forward again and pass some resolution as to joining the Sanitary Institute. However, on the proposition of Mr. A. W. Mason, seconded by Mr. Deighton, it was resolved not to join the Institute.

A letter from the Association of Veterinary Officers of Health embodying a resolution passed by that body calling upon the Government to take immediate steps to control the disease of tuberculosis in animals.

Mr. MASON asked whether the purpose of sending the letter was to ask for the Society's support: if so, he certainly thought such an action deserved their whole-hearted support. There was only one small point to which he took exception—as to the proposal to give only partial compensation to owners of tuberculous animals and carcasses notified and condemned. It was his opinion that the owners should be compensated in full. Mr. Wharam seconded, and Mr. Clarkson spoke in support.

Mr. SHIPLEY said he was very much interested in the matter. He felt that tuberculosis amongst cattle was a disease which they knew could and should be stamped out. They were also aware of the fact that tuberculosis had existed amongst cattle for generations, and that the agriculturist at the present time was not suffering through his own neglect. If the general public wanted to rid herds from tuberculosis they should help to pay for it, and adequate compensation should be given to the agriculturist in stamping out the disease. It was a wicked thing that a disease like this should be allowed to exist without some serious attempt being made to stamp it out.

The resolution, on being put to the meeting, was carried unanimously.

A letter of resignation from Mr. A. W. N. Pillers, Sheffield, who had removed from Sheffield to Liverpool, and therefore felt that he could not attend the meetings. The Secretary explained that he had immediately replied on behalf of the Association asking Mr. Pillers if he could not possibly see his way to continuing his membership. Mr. Pillers' answer, however, was that he felt such a course quite impossible.

On the proposition of Mr. Mason it was decided to once more ask Mr. Pillers to re-consider his decision, the Secretary characterising him as one of their most brilliant young members.

Mr. R. R. THOMPSON, Halifax, was elected a member of the Society.

ELECTION OF COUNCIL R.C.V.S.

On the question of the election of the Council of the Royal College of Veterinary Surgeons, Mr. Bowes said their Secretary was their candidate for this year and he thought they had an excellent chance of carrying his election.

The SECRETARY pointed out that the reason for introducing the matter into the agenda was with the idea of strengthening the Council's hands in the matter of amalgamation with other societies.

Mr. BOWES thereupon proposed that the Yorkshire Society should amalgamate with the Lancashire, Liverpool, and Eastern Counties Societies, as on previous occasions. Mr. Shipley, as a member of the Eastern Counties Society, said he felt quite certain his Society would only be too glad to adopt Mr. Clarkson as their candidate. They, as a weak Society, were glad to have the support of big Societies like Yorkshire and Lancashire. Personally he should like to see more candidates from such societies. He thought there were too many members of the Council at the present time who represented Schools, whereas they ought to have more men representing the general practitioner. (Hear, hear). As far as the Eastern Counties were concerned they were unable to supply any further candidates, but a wealthy Society like the Yorkshire one should have no difficulty in providing a fresh candidate every year.

Mr. WHARAM suggested amalgamation with the Midland Counties Society also.

The SECRETARY, however, pointed out that when they were approached last year they were not willing to amalgamate.

Mr. WHARAM considered that was no reason why they should not do so this year. In his opinion Mr. Clarkson had a good chance of getting elected, but if they had the help of the Midland Counties also he would have a still better chance, and they should leave no stone unturned. It might be that the Midlands had had no candidate of their own this year.

Mr. GARNETT urged they should endeavour to get the Midland to amalgamate with them. When they did so formerly the candidates were always successful.

After some further discussion, Mr. Bowes said he was willing, with the seconder's permission, to add the "Midland Counties Association" to his proposition if they agreed to amalgamate.

Mr. WHARAM agreed, and the resolution being put to the meeting was carried unanimously.

AFFILIATION WITH N.V.A.

The SECRETARY proposed "That the Society be affiliated to the National Veterinary Association under the amalgamation of Societies scheme."

Mr. BOWES seconded. There was no need, he said, to go into the question again. It had been gone into on numerous occasions and had been so well ventilated it needed no introduction. The resolution was carried.

Following upon this the Secretary explained that they would require to elect representatives to serve on the Council of the National Veterinary Association. He proposed that the choosing of the representatives be left to their own Executive Council. Mr. Bowes seconded, and the motion was carried.

PRESIDENTIAL ADDRESS.

A. McCARMICK, M.R.C.V.S., Leeds.

Gentlemen,—I take the present opportunity of thanking you for your great kindness in electing me as your President for the current year. I consider it the greatest honour you could confer on a colleague, and I only hope I shall give you no cause to regret your choice.

I think our Society ought to be much stronger, both numerically and financially, considering this is the largest and almost the most populous county in England. I scarcely know how we could exist without our Society. We all know the great advantages we have derived from the meetings, and our general conversations afterwards. It makes us all meet as colleagues, and not as opponents, and I am sure if any member requires professional

advice on any case, he will readily meet with some colleague who will do his very utmost to assist him ungrudgingly.

The Election for Council will soon be upon us again. I certainly think it is a retrograde action for Societies to amalgamate for election purposes. I take it, if a man is ambitious, and worthy of attaining the honour, he ought to appeal to the electors individually, requesting their support. Amalgamations (not always honourably adhered to) are really sinking individual merit, and often prevent the most worthy man being victorious.

Although I hold these views, they have not prevented me signing the nomination paper as President of the Society, for our worthy Secretary, Mr. Clarkson, and I hope he will at last reach the Council Chamber, and do some good work there.

Financially, our profession at present is in a very critical condition, and I must say candidly that, although at one time I had a few scruples to the contrary *re* The Veterinary Surgeons' Bill, I think it time that all individual opinions on small matters ought to be sunk, and that we should all try our utmost to get the Bill made law at the very earliest opportunity, as it is now becoming a vital matter; indeed, I think it is our only salvation, for we cannot go on decreasing the invested funds of our College as we are doing at present.

I wonder if the National Veterinary Defence and Mutual Benevolent Society would come to the assistance of our College and give the profession a loan of a substantial sum, to be refunded with interest on the Bill becoming law. The invested funds of that noble Society are, as we know, very handsome, and are annually increasing, would it not show at any rate that we have a practical and worthy defence society—defending the integrity of our profession.

I hope the Board of Agriculture will not entertain the views of the various deputations that have waited upon them on the removal of the embargo on Foreign Cattle, and also on Foreign Hay and Straw, for we well know that contagious diseases are very rampant abroad. It would be most serious to all stock owners; although for a short time it would no doubt decrease the price of food, ultimately would end in disaster.

The Board of Agriculture returns for 1911 show that there was a large reduction in the number of horses bred—4·2 per cent.—largely due to the substitution of motors for horses. The total number of cattle for 1911 was slightly increased (1·1 per cent.) These figures show conclusively that the veterinary surgeon of the future will have to look to the country for the best part of his income.

And we must look forward to the growth of country work, not only under the Board of Agriculture, but also under other public bodies. If the Board of Agriculture appointed more veterinary and fewer lay inspectors they would find it greatly to every one's advantage, more especially the taxpayers.

The time has certainly arrived when some endeavour ought to be made to abolish private slaughter houses and have Public Abattoirs in their stead.

All Dairy Shows ought to be tested with Tuberculin, and the reactors isolated at once. Tuberculosis should be scheduled under the Contagious Diseases (Animals) Act, and by that means, I think, it would gradually become much less common than it is to-day.

The various sera ought to be under State control and obtainable only by the veterinary and medical professions. As we all know, they are frequently mixed, and by being so mixed they are often brought into unnecessary disrepute, and let us hope the Government will bring forward a Bill in Parliament on the lines of the one we thought Mr. John Burns would have been able to carry successfully through ere now.

The Parasitic Mange Order of 1912 will, I consider, be

a great boon to horse owners, and the only means of eradicating a most troublesome disease.

The Coal Mines Bill. I am sure the profession owe a deep debt of gratitude to Mr. H. Peele, Durham, for the action he, in the first place, took regarding the Bill, and also to the Deputation from the R.C.V.S. who waited on the Chief Inspector of Mines at the Home Office. Let us hope that through their efforts duly qualified veterinary surgeons will alone be entrusted with the testing of horses for glanders before their descent into the mines. I think we have had a very narrow escape in losing the most vital part in the Bill, but for a private member's foresight, or from some private information, received by said member out of our own profession. I hope the Council will take this as a lesson, and in the future guard our interests rigidly and well.

It has just been announced that the Ordinance for the Institution of Degrees in Veterinary Science, promoted by the University of Edinburgh, has been passed by the Privy Council and has received His Majesty's sanction. The Ordinance will come into operation at the beginning of the next summer session, and by it the University is empowered to confer the degree of B.Sc. and D.Sc. in Veterinary Science. I am sure we ought to be highly satisfied, and I hope our College and the University will work harmoniously together to the advantage of everyone.

The Kirk appeal case *re* the use of the Coat of Arms on our note paper, has ended against us. Mr. Kirk deserves our thanks for his manly but unsuccessful fight undertaken against great odds; he was very badly supported throughout the profession in fighting for the rights we have had for so many years past.

I would like to say how I deplore the readiness with which some of our profession go into the witness-box and give evidence in cases they know practically little about, calling themselves expert witnesses, and by their evidence doing a great injustice in the eyes of judges, magistrates, and the general public, to our profession. I think such cases ought to be taken in hand by our Council and dealt with rigorously.

Before concluding, I am sure we all feel the great loss our profession has sustained during the past year by the death of Prof. W. O. Williams. There have been very few annual gatherings of the Yorkshire V.M.S. without the presence of a Williams, in fact we have always looked forward to having a few pleasant words with either the late Principal or his son.

Mr. McKinna, at the conclusion of the address, in proposing a vote of thanks to the President, said though there were a good many controversial points in the address their thanks were due for the gentle way in which he had touched upon them. They had experienced a keen pleasure in getting their friend Mr. McCarmick into the chair, but they felt a keener pleasure in the way in which he had conducted the business, and it was now in no formal way they accorded him their hearty thanks for his excellent address.

Mr. Bowes seconded, and said though they had had longer addresses he did not think they had ever listened to an address which gave more food for thought than the short address they had just heard.

Mr. CLARKSON spoke in support, and the resolution was carried with acclamation.

ANNUAL DINNER.

After the loyal toasts of "The King," and "The Queen, Queen Alexandra, the Prince of Wales, and Royal Family" had been duly honoured,

Mr. McKinna proposed "The Imperial Forces." As a man of peace, he said, he could not quite understand how it was he was put down to propose this toast. However he believed the toast was intended to include

the first line of defence—the Navy, which every Britisher was proud of; the Army; and he supposed he should include also the Boy Scouts. (Hear, hear.) He hoped they would never need the services of the Army, but it was good to have it there if needed. He wished he could have said something about the Army Veterinary Department. Col. Raymond, unfortunately, who should have responded to the toast, was unable to be there. However, he thought the veterinary profession compared very favourably with their medical comrades in status and other respects. In the absence of Col. Raymond, he coupled the toast with the name of Major Mason.

Maj. A. W. MASON, in responding, said he wondered why those present should be inflicted annually with his speeches. (Laughter.) He, however, thanked them for the honour they did him in asking him to respond to the toast of "The Imperial forces." He did know something about them he flattered himself. First of all, in regard to the Boy Scouts, he remembered even in his own time they used to wave flags and pretend to be brigands. He supposed the Boy Scout movement embodied something of the same spirit only it was on better lines. They got out into the open country on the pretence of doing something and by their training they qualified to become better citizens. (Hear, hear.) As regards the first line of defence, the Sailor Boys, they knew what the Germans would do if they themselves did not do it. However, they would be one better than them, or rather two better, for they would continue to lay down two vessels to one—and he was sure they had the stamina. No finer fellow existed than Jack Tar. If they got him in the fighting mood he believed he was second to none. The English Army, of course, was very small, and was scattered here, there, and everywhere, but he confidently believed the traditions of the past would be borne out. They would emulate the achievements of those veterans who had gone before, and everyone of them would do or die. The Territorial scheme was probably the next best thing to conscription, but it was his opinion they might all see conscription an accomplished fact in a short space of time, and perhaps the sooner it came the better. The Territorial scheme was the thin end of the wedge. The "Powers that be" were certainly giving them something for their money now, for the Territorial was better equipped, and he was taught something of real soldiering.

Prof. SETON, in proposing "The Veterinary Profession," said he thought those who had drawn up the programme might have selected a more suitable proposer for what he supposed was the toast of the evening, yet in spite of that he had not allowed it to spoil his dinner. (Laughter.) He remembered on a previous occasion when he was enjoying the hospitality of this Society being called upon to make a speech when, judging from the countenances of those around him, he made a serious blunder, though they were gracious enough not to say anything at the time. (Laughter.) He was determined, however, not to allow that to happen this time. Some members of the veterinary profession were bemoaning the fact that the importance of the equine branch was gradually becoming less and less, while other veterinary practitioners in some parts of the country had actually discarded horses and been known to use motor cars in pursuance of their professional duties, and against all preconceived notions they had shocked the feelings of agriculturists and farmers by actually driving into their farmyards in motor cars, instead of in the orthodox fashion with a carriage and pair. (Laughter.) If he was correctly informed he believed they had received university recognition this year for the profession, and in future university veterinary degrees would be obtainable. Though he himself happened to be connected with a university he did not say that it was any great thing to have a uni-

versity degree unless that entailed the best possible training. If it meant that recognition for the veterinary profession was just as important as any other of the learned professions, be it law, medicine, arts or divinity, then he thought it was a step in the right direction so long as it meant the education of the veterinary was as broad and sound as his education had been in the past. He had been very much struck by a remark made by Mr. Runciman the previous day with regard to the foot and mouth disease. Mr. Runciman had stated it was the intention of the Board of Agriculture to conduct investigations and researches into the origin and treatment of this disease, and that these researches should be carried out in consultation with veterinary experts, and the India Office had been approached with the object of obtaining facilities for carrying out the investigations there. (Hear, hear.) Why this course had not been taken a score of years before he could not imagine. The Veterinary Colleges could not be expected to take up research work of that character with the limited means at their disposal. He wished Mr. Runciman had gone further, because they had many other complaints in England which for lack of funds had not been investigated, or in which no practical treatment had been discovered. The worst feature about such diseases was that they were so obscure that people did not attach very much importance to them. Though not perhaps so infectious as foot and mouth disease, still they meant great financial loss to owners of stock. In the Development Fund Commissioners they had a body of men who were expected to administer certain funds for the purpose of research and so on, and he learned that they had obtained the sum of £1,300 for the Royal Veterinary College for investigation in respect of vaccination. He hoped that that would prove a good omen, and that more money would be forthcoming for the investigation of obscure diseases which in the eyes of the profession were worthy of being taken up as objects of research. He might say so far as the county of Yorkshire was concerned the University of Leeds had applied to the Development Fund Commissioners for certain funds to be devoted to the investigation of certain diseases. He hoped they would not think the University of Leeds were taking the place of the veterinary profession in this movement, but that they were really only doing their duty in bringing the matter forward and endeavouring to have researches made into the origin and cure of these obscure diseases, and it was their intention, if their application succeeded, that a qualified veterinary surgeon should be in charge of that investigation. (Hear, hear.) He did not know that their application would be granted, but if the Development Fund Commissioners said it was not a matter for the agricultural colleges, but for the veterinary colleges, then their end would have been attained. He was somewhat afraid, however, that the thing was going to be shelved. Unless the Development Fund Commissioners were approached annually like the importunate widow he felt certain the matter would be shelved for a good many more years. Agriculturists were accused of quackery. Those of them who were family men must confess that they supported quackery to a certain extent, because when their children had been ill they had not always run straight to the medical man. They had exercised their powers of diagnosis: perhaps they had been wrong and given Epsom salts when they should have given something else. He himself must confess to having bought "red drenches" and other things when he ought to have called in a professional man. (Laughter.) Yet though they might form some fairly accurate idea as to what was wrong with a child, there was some amount of risk in it; but what about dumb animals? He thought diagnosis in their case was very much more difficult than in the case of a human being, because that animal could not express itself as even a small child could. There

was not only a legal obligation but a moral obligation upon breeders of stock in relation to the public health, and they depended upon the veterinary profession to enable them to carry their obligations out. Was it right for a man who knew he had a "screw" to send the animal to the market? Was it right that a man who knew he had a reacting animal, apparently in good health, to send it to market knowing that human beings might consume the meat? On whom did that obligation rest? Was it entirely to rest upon the practical man? He did not think so, because the practical man could not tell. Could his veterinary adviser tell? He thought it was very difficult. The moral obligation rested, in his opinion, both with the agriculturist and with his veterinary adviser. As time went on he felt certain that that obligation, taking into account the trend of affairs, would be more and more impressed upon the farmer and his veterinary adviser, and in the near future he hoped the position of the veterinary profession would be much more important than it had been in the past. He thought he had noticed during the last few years a rather disappointed air about the profession, but in his opinion they might look to the future with a far brighter face. (Hear, hear.)

Mr. WHARAM briefly responded. The proposer of the toast had referred to the use of motor cars by the profession, but he (Mr. Wharam) claimed they were right in doing so, as they were a progressive profession, and they had taken to motor cars with a view to increasing their efficiency, and he believed they had done so by that means to a very great degree. He agreed with Prof. Seton in thinking that the outlook of the profession was very bright indeed. The Council were endeavouring to fix the examinations at a very high standard, and their schools were teaching the students in such a manner that they would be capable of following up all lines of research. He believed they had a class of man coming into the profession that was quite equal to investigating many of those diseases which were at present not very well understood. Their profession was eager to pass what was called "The Bill," which would give them an assured income, and which would facilitate the work that the Council had in hand.

Mr. F. W. GARNETT proposed the toast of "The Examiners of the R.C.V.S." He stated that he had witnessed every one of their examinations for many years past, and he could assure them he did not think the Council had ever been served by a better staff of examiners than existed at the present time. He wished to convey his conviction of their integrity not only towards the College but to the students themselves. He had never seen the slightest favouritism or irregularity in the course of the examinations in any shape or form. At the present time the bye-laws in regard to examinations were under discussion by the Council, and though he did not agree with change for change's sake, yet from time to time it was their duty to look round and see if their examinations were right up to date. He had great pleasure in coupling with the toast the name of Mr. Woods, one of the oldest Examiners on the Board in experience and in length of appointment. (Applause.)

Mr. Woods, who, in order to catch his train, had to respond to the toast briefly, adverted to the fact that not only was he the oldest examiner, but he had actually completed his majority upon the Examination Board of the Royal College, having done 21 years service in that capacity, which he believed constituted a record. He had, moreover, taken his duties so seriously that he had never missed a single examination. (Cheers.)

Mr. CLARKSON briefly proposed the toast of "Kindred Societies," to which Mr. Brittlebank (President of the Lancashire V.M.S.) and Professor Share-Jones responded.

Mr. BRITTLEBANK, after thanking them for the hospitality he had enjoyed at their hands, said they in Lancashire were looking forward to an extremely busy year. It was the year of their jubilee as a Society, and during that year they also were to have the honour of a visit from the National Association. He appealed to Yorkshire to help them during the next 12 months, and he hoped he would not look in vain.

Prof. SHARE-JONES said there was a time when the medical profession, which he characterised as the noblest of all professions, simply dealt with one type of animal, namely, man himself, but modern conditions had shown that the study of one type did not produce the best results, which were only to be achieved by the comparative study of all types from the protozoa throughout the whole series up to man himself. He might remind them with pride, and he would like to remind their medical *confrères* too, of the discovery made by a fellow veterinarian of the trypanosome in the horse. Though insignificant at the time, that discovery remained to-day one of the great pillars upon which that magnificent edifice, the science of tropical medicine, had been built. It was for them to push their claim to the front, and to show that they could be of utility to mankind, and that they were prepared and willing to play their part in the onward march to that millenium of health to which they all aspired. (Cheers.)

Mr. BOWES proposed "The City of Leeds," and on behalf of the Society welcomed the presence with them of Alderman J. Clark, Chairman of the Sanitary Committee of the Leeds Corporation. That was the Committee they, as veterinary surgeons, felt most sympathy with as it involved, to some extent, connection with their profession, part of its work dealing with the control of tuberculosis, and therefore they were pleased to have the opportunity of listening to what Alderman Clark might say.

Alderman CLARK, in responding, said he had made it in his way, as Chairman of the Sanitary Committee, to go round with the Veterinary Assistant to the Medical Officer of Health for the city on various visits of inspection to cowsheds and meat markets, etc., and he had come to the conclusion that the veterinary official was a man of the highest ability and integrity; and when he considered that that man had paid a great amount of money for his education and possessed knowledge and skill that no other official in the city had, and moreover that every person, man, woman, and child, was dependent for his health to some extent on that one person, he felt he was not adequately remunerated for his services. (Hear, hear). It had been suggested by some people that the position was a sinecure, but he emphatically protested against such an idea. He did not think it was a matter of politics, but a matter of common sense that the health of the community should be considered, even at some little extra cost. It was for the veterinary profession to educate the people in regard to the dreadful disease of tuberculosis. They would not be thought much about if they did not make themselves felt, and it was of the utmost importance to the health of Leeds that they should do so. (Hear, hear.)

The toast of "The Visitors" was proposed by Mr. Bowman, and responded to by Mr. Shipley, of Yarmouth, and the final toast of the evening, "The President," proposed by Mr. Clarkson, in the absence of Mr. Whitehead, being drunk with musical honours, brought a very enjoyable function to a close.

During the course of the evening an entertaining musical and recitative programme was rendered by Messrs. Harry Blackie (baritone), Harold Brierley (humorist), Frank Holt (oboist), W. H. Tatham (reciter), and F. E. Johnson (pianist).

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended Feb. 17	25		28				1	3	138	250	16	59	985
Corresponding week in	1911		27				6	55			30	39	459
	1910			34			3	17			31	35	352
	1909	29		68			12	55			29	24	118
Total for 7 weeks, 1912	177		196				18	40	992	2464	107	427	5371
Corresponding period in	1911		172				35	135			215	252	2805
	1910			246			46	153			214	157	1189
	1909	208		278			71	189			265	210	1439

* Counties affected, animals attacked : London 3.

Board of Agriculture and Fisheries, Feb. 20, 1912.

Outbreaks

IRELAND.	Week ended Feb. 17	...	...	...	...	...	...	4	19	1	6
Corresponding Week in	1911	...	1	1	...	...	...	4	22	2	67
	1910	...	...	...	...	...	...	1	22	1	59
	1909	...	...	...	...	...	...	2	24	...	...
Total for 7 weeks, 1912	...	1	1	...	...	...	...	17	143	16	170
Corresponding period in	1911	...	3	3	...	...	...	19	148	23	408
	1910	...	2	2	...	...	...	16	157	6	215
	1909	...	1	1	...	...	...	18	116	3	12

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 19, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The New "Cruelty" Act—Shoeing-smith Fined

An important case was heard by the stipendiary magistrate (Mr. Neville) at Brierley Hill, on Thursday, 15th inst., under the Protection of Animals Act, 1911, which came into operation on January 1st last. The proceedings were taken under Section 1, Sub-section (e), which makes it an offence to subject animals to any operation performed without due care and humanity.

William Henry Cheadle, shoeing-smith, Dudley Road, Brierley Hill, was charged under this Act with cruelty to a horse on February 2nd. Inspector Smye represented the Birmingham Society for the Prevention of Cruelty to Animals, and Mr. J. T. Higgs defended.

Henry Robins, 101 Worcester Street, Stourbridge, in the employ of George Henry Meese, Brierley Hill, said on February 2nd he took to Cheadle's shoeing forge a horse to have a shoe tightened, and he also asked defendant to examine the animal's mouth. He told defendant the horse would not eat, as it was suffering from lampas. Witness left the horse, and, upon returning, Cheadle told him he had lanced its mouth. After this the horse ate all right.

Mr. R. Lewis Green, veterinary surgeon, Dudley, said he examined the horse on Feb. 4th, and found an excoriation of the palate from one side to the other, and from the back of the incisor teeth to the second bar, the first bar being removed and a portion of the second. In his opinion these bars had been removed by a hot iron. Lancing with a knife would not have brought about this condition.

By the Stipendiary: The proper way in extreme cases was lancing with a knife. No doubt there had been swelling, but the hot iron had caused more swelling, and removed the whole of the mucous membrane. This burning of the mouth was cruelty.

ling, and removed the whole of the mucous membrane. This burning of the mouth was cruelty.

By Mr. Higgs: He pledged himself the hot iron was used. A knife and the rubbing in of salt could not produce such an effect.

Mr. Abraham Green, veterinary surgeon, Dudley, and Mr. James Blakeway, jun., veterinary surgeon, Stourbridge, gave similar evidence.

P.S. Beddoes and Samuel James Webb, farmer, Amblecote, were also called for the prosecution.

THE DEFENCE.

Defendant gave evidence that he had been in business in Brierley Hill twelve years, and Mr. Chambers, veterinary surgeon, attended there. The horse was taken to him on the 1st inst., and at his request, Robins took it away, in order to bring it next day, when Mr. Chambers would probably be there. On the 2nd Robins took the animal at 7.30 a.m. As Mr. Chambers did not come, witness lanced it himself, and his assistant held the animal's head. Witness produced a pocket-knife, with which he said he lanced the lampas. Afterwards he rubbed it hard with some salt and a drop of Fryer's balsam. He performed the operation because the horse could not eat; it did so afterwards. He had never burnt a horse's mouth in his life.

Frederick Beddard, assistant to defendant, gave corroborative evidence.

Mr. Thomas Chambers, veterinary surgeon, Dudley, said he had a place of business at Cheadle's shoeing forge, and he regarded him as a very good man. Witness saw his horse on February 5th, and, on cursory examination, he came to the conclusion that it had the appearance of being rubbed, or, as his professional

brethren had said, as if it had been burnt or rubbed. He made careful examination of it afterwards, and he was now of opinion, and came to the conclusion, that what he saw could have been produced by what Cheadle said he did. If it had been burnt there would have been more sloughing of the mucous membrane.

Mr. Higgs handed to the stipendiary a letter which he had received from Lord Hatherton, who gave Cheadle a splendid character. It would have been quite possible, he had no doubt, to get an array of veterinary surgeons for the defence if one had expected he would have been met by three, but it had not been customary, so far as he knew, to call three professional gentlemen to support each other in such a case as this.

The Stipendiary said Mr. Chambers had given his evidence fairly, but he appeared to have been doubtful for some time, and then came to the conclusion that the mouth was lanced. Altogether, he (the stipendiary) thought the evidence of the veterinary surgeons for the prosecution was correct—that defendant burnt the mouth. [Defendant: No, sir.] People who were not properly qualified veterinary surgeons had to be very careful when they attempted to do anything in the way of any operations with horses. It must be made generally known in the district that if unqualified people attempted to perform operations on animals, now that this Act was in operation, they subjected themselves to a risk of six months' imprisonment. The costs were heavy, and defendant would be fined 10s. and £3 4s. costs, or one month.—*County Express (Stourbridge)*.

PARLIAMENTARY.

NEW BILLS.

In the House of Commons, on Monday, 19 :

The following Bills were presented and read a first time :—

* * *

Sir F. Low (Norwich, Min.) Bill to amend the Acts relating to the practice of Veterinary Medicine and Sundry.

[The second reading has been put down for May 10].

Wednesday, Feb. 21.

Sir F. BANBURY (City of London, Opp.)—Bill to prohibit experiments upon dogs.

Mr. FIELD (Dublin, St. Patrick's, Nat.)—Bill to provide for the marking of imported meat in Ireland.

Tuesday, Feb. 20.

AGRICULTURAL RESEARCH.

In reply to Mr. C. Bathurst (Wilts., Wilton, Opp.) Mr. RUNCIMAN (Dewsbury) said : A grant of £30,000 per annum will be made from the Development Fund for work at Research institutes in the following subjects, viz., Plant physiology, plant pathology (Mycological side) plant breeding, fruit growing, plant nutrition, and soil problems, animal nutrition, animal breeding, animal pathology, dairy investigation, agricultural zoology, and the economics of agriculture. Negotiations are proceeding as to the places at which the work will be carried on. It is proposed to allocate an additional sum of £5000 for investigations of a special character during the ensuing financial year, and I hope shortly to be in a position to announce the purposes for which this sum will be expended.

Army Horse Shoeing.

Lord Haldane received a deputation at the War Office. He was accompanied by Colonel Seely, M.P., Under Secretary, and Mr. Tennant, M.P., Financial Secretary. The deputation were introduced by Mr. W. Mullin, Vice-President of the Parliamentary Committee of the Trade Union Congress. A resolution asking for the establishment of Government workshops for the making of Army horse shoes was submitted.

Lord HALDANE said in regard to the shoeing of Army horses, if they were always under peace conditions the War Office would undoubtedly like to use hand made horse shoes. Their business, however, was to prepare for war. Among the things that were necessary was a large stock of ready-made horse shoes so as to be able to shoe "cold" in the field. The late Government was driven to go to America for them during the South African war, because America was then the only country where they were turned out in large quantities. He was glad to say that British manufacturers had turned their attention to the making of horse shoes, and the country was now amply provided with factories for their quick production.

Mr. McPhail Appreciated.

At recent meeting of the Hull Council, on the minutes of the Sanitary Committee was a recommendation that the salary of Mr. McPhail, the Foods Inspector, be increased from £400 to £500 by two annual increments of £50. This arose out of the fact that Mr. McPhail was one of the two candidates selected for an appointment in London under the Australian Commonwealth.

An amendment that the recommendation be referred back was discussed. Mr. Pearlman spoke of the high services of Mr. McPhail: it would be an unwise policy to drive such an efficient servant from the city. It was a matter of common knowledge that since Mr. McPhail came to the city the inspection of public food had been far more efficient than it was before. Mr. Booth and Mr. J. W. Gould, on behalf of the butchers, also paid high tributes to the work of Mr. McPhail.

The amendment was lost by a large majority, and the recommendation subsequently approved.—*M. T. J.*

Donations to R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donation to the College funds from :

Mr. S. J. Marriott, Northampton	£1	1	0
Amount previously acknowledged	7	7	0
	£8	8	0

Personal.

Many will regret the resignation, owing to ill-health, of Mr. James MacDonald, F.R.S.E., Secretary of the Highland and Agricultural Society of Scotland, from the position which he has held with marked success for nearly twenty years. Born in Banffshire in 1852 he, early in life, chose agricultural journalism as a profession, and in 1874 became agricultural representative in the northern counties of Scotland for *The Scotsman*. Later he removed to Dublin to edit *The Farmer's Gazette*, but in the early 'eighties he recrossed the channel to become editor of *The Live Stock Journal*. Some

time afterwards he again came to Dublin as Agricultural Superintendent of the Royal Dublin Society, and in 1892 became Secretary of the Highland Society, which position he has just resigned. Mr. MacDonald has long been well-known as an agricultural writer. He edited, and in great part re-wrote, the fourth and fifth editions of "Stephens' Book of the Farm," and was author of other agricultural books. His work for the Highland Society was most successful, and his courteous and affable manner and unusual amount of common sense made for him a multitude of friends whose wishes he will carry with him into his years of retirement.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Feb. 16.

REGULAR FORCES. ARMY VETERINARY CORPS.

The following Capt. are seconded for employment with the Egyptian Army:—

J. J. B. Tapley. Dated Nov. 9, 1911.

T. A. Nicholas. Dated Jan. 4.

The following to be Lieuts. (on probation):—

G. V. Golding, H. D. Lewis, D.A. S. Beck, H. Stephenson, Cadet T. L. Shea, from the Royal Vet. Coll. of Ireland O.T.C. Dated Feb. 17.

Feb. 20.

Capt. W. M. Miller to be Major. Dated Dec. 7th, 1911

The following officers arrived from India in Transport "Rohilla" on 20th instant, and have been posted to the stations against their names for duty:

Captains G. Conder, J. R. Hodgkins, and R. W. Mellard to Dublin: Capt. J. W. Dale to Shorncliffe: Lieut. A. S. Lawrie to Chatham.

Capt. R. F. St. C. Houston also disembarked from above ship and has been admitted to Netley Hospital.

OBITUARY.

WILLIAM AULTON, M.R.C.V.S., Derby.

Graduated, Lond: April, 1859.

Mr. Aulton died on February 16th at Nottingham Road, Spondon, at the age of 79 years.

THOMAS DART, V.S., Molland, South Molton, N. Devon.

Mr. Dart left the railway station for his home in his cart about 7 p.m. A considerable portion of the road is steep and narrow. About an hour later Allan Dart, his youngest son, was going towards Molland when he ran against a horse standing in the road. Lighting a match he saw an overturned cart and, almost immediately after, his father. He ran for assistance to Ford Farm, about a gun-shot distance down the Hill, and Mr. R. Elworth came to his help. It was at once seen that the unfortunate gentleman was dead.

An inquest was held at Molland, on Monday. The medical evidence given by Dr. Seal, of South Molton, showed that death was due to a broken neck, caused by the overturning of the cart. Deceased was strictly sober when he returned from the station, where several persons had spoken with him, as well as others on his way home. The jury, in returning a verdict of "Accidental death," expressed sympathy with the family.

Mr. Dart was a native of the parish, of a genial and kindly disposition. Except for a period of about ten years, when he went to Buckinghamshire, he has lived all his life in Molland, and has had considerable practice in a dozen or more parishes. He leaves a widow, three sons, and two daughters.

The Late Rev. Dr. Gillespie.

Agricultural interests in Scotland have sustained a severe loss in the death of the Rev. Dr. Gillespie, which took place on Wednesday at the advanced age of seventy-five.

The son of a Dumfriesshire farmer, Dr. Gillespie was educated at the local school and at the Glasgow University, graduating at the latter in 1857. He was licensed in 1861, and four years later was presented to the living of Mouswald, a sparsely populated parish in an agricultural district near Dumfries. That charge he continued to hold up to the last, his ministry thus extending well over forty years. Dr. Gillespie took a great interest in church work, and rose through various positions to the honourable office of Moderator of the General Assembly of the Church of Scotland. But he was best known to the outside world for the great interest he took in agricultural matters. In addition to writing largely on the subject, he was for thirty years a leading director of the Highland and Agricultural Society. In that long time he missed very few meetings of the Board or very few shows of the Society. For many years he was one of the most influential of the directors, and almost nothing was done that he objected to or disapproved of. In addition to that, the reverend doctor was chairman almost from the start of the Glasgow and West of Scotland Agricultural College. He was also chairman of the Joint Board for conferring agricultural and dairy diplomas, and an examiner in agriculture for the B.Sc. degree in Glasgow University, while he was a member of the Departmental Committee which inquired some years ago into the subject of abortion in cattle.—*L.S.J.*

Dr. Gillespie had the reputation of being one of the best raconteurs of his day. Here is one of his stories:

"A Forfarshire minister wished a new horse—which is popularly known as 'a minister's beast'—suitable to overtake the sort of mixed and miscellaneous work which a quadruped with such an ownership is generally expected to perform. Without seeing the rather ludicrous character of it, he put an advertisement in the local paper in these terms—'Wanted a horse, to do all the work of the parish minister. Apply,' &c."

Another story is to this effect:

Scene: Lockerbie Station during sitting of the General Assembly. Young clerics who have been preaching for members of assembly.

English tourist in train: "I say, porter—porter! Who are all these parsons whom I see at the station?"

Porter: "Oh, these young ministers, sir? They are returned empties, sir!"

On one occasion Dr. Gillespie attended a book sale, when "Mrs. Caudle's Curtain Lectures" was put up, and the minister said to the auctioneer: "Take it home, Mr. McLean." The auctioneer shouted in reply: "Na, na, minister, neither you nor me need tae tak' it hame; we can get it at hame wihoout the book!"

Veterinary Societies Addresses.

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st., Manchester

Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,

Quay-street, Manchester

Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.,

Grosvenor Street, Oxford-st., Manchester

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The above veterinary vaccines are being used with successful results.

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KENT. For immediate sale, an old established practice owing to vendor's illhealth. Represented as having returned for several years between £300 and £400 per ann., at little expense. PR. 108.

BUCKS. A good opportunity for a young, qualified V.S., to secure a well established practice, represented as returning (cash) £300 p.a., on average for 16 years. Vendor retiring from profession. Good 8-roomed house and garden, stabling, etc. at £30 p.a. To effect early sale vendor will accept £100. PR. 188.

SOUTH MIDLANDS. A good-class practice in a first-rate sporting district is for immediate disposal. Satisfactory reasons for relinquishing. Returns represented as being over £450 p.a. PR. 119.

EASTERN COUNTIES. An old established practice in good agricultural district is for disposal. Represented as returning about £450. Low inclusive price for quick sale. Nice house and stabling, large paddock. PR. 118.

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WEST OF ENGLAND. Very profitable practice, returning nearly £1200 per ann. Contracts produce over £250. Experienced assistant will remain with purchaser if desired. Large convenient house would be sold with the practice, price £800. Premium for practice £1500. Profits are exceptionally large for the income.

IRELAND. Practice returning £1200 per ann. Good contracts produce over £400 per ann. Vendor would sell the whole or a half-share of the practice.

EAST COAST. Agricultural practice returning £600 per ann. Good house containing 2 recept. 4 bedrooms, bath, kitchens, etc. Stabling for 4 horses, coach-house, kennels, etc. Price required for house and practice £1300, of which £400 can remain on mortgage, or vendor would sell practice for £500 and would let house on lease at £45 per annum.

SOUTHERN COUNTY. Easily worked practice returning £650 per annum. Convenient house with good yard, stabling, kennels, etc. Rent £85 or would sell freehold if preferred. Premium one years purchase, valuation optional. The vendor is well-known to us and the practice can be thoroughly recommended.

HOME COUNTY. Practice returning £350 to £400 per ann. In present hands nearly 20 years. Small house with $\frac{3}{4}$ acre garden and good stabling. Rent £35. Premium £200.

GOOD-CLASS practice in the West of London, returning £600 per annum. Well-situated house, rent £70. A partnership might be entertained with a suitable gentleman, but vendor would prefer to sell the whole practice.

SOUTH COAST. Country practice returning about £835 per annum, including appointments producing about £70. In present hands 24 years. The practice has been worked by an assistant who would remain if desired. Convenient house, rent £21, larger available if required. Premium £800.

LONDON, N. Very old-established practice returning about £1200 per annum. Good house and thoroughly convenient premises, rent £90. The practice is principally horse. Receipts are increasing. Premium one years purchase. This practice is well-known to us and can be recommended.

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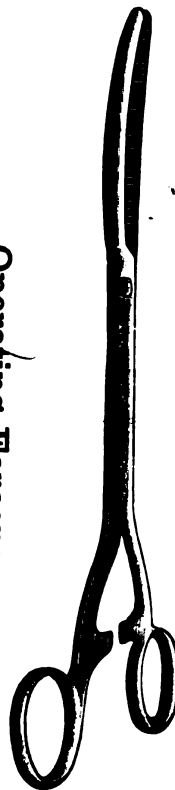


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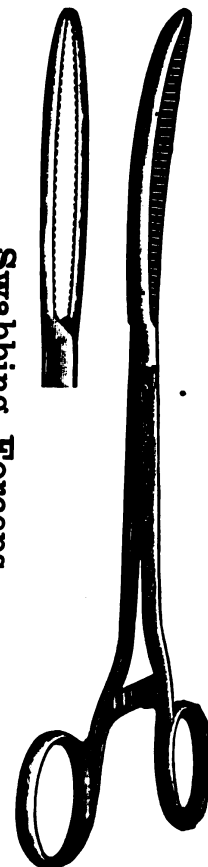


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AN Examination for the award of the above named Prize, value £100, will be held on August 1st and 2nd, 1912, at London, Edinburgh, and Dublin.

The Bursary is tenable at Paris or Berlin for one year, and the competition is open to Members of the College who have graduated since October, 1908.

Applications, on forms to be obtained from the undersigned, must be received not later than July 5th.

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NEXT Examination May 18th, 1912. Theses to be received April 20th, 1912.

Particulars on application to the Secretary, R.C.V.S., 10 Red Lion Square, W.C.

The Central Veterinary Society

A GENERAL Meeting of the Society will be held at 10 Red Lion Square, W.C., on Thursday, March 7th 1912, at 7 o'clock. Agenda. Routine business: Post mortem specimens: *Re* Circular letter from the Association of Veterinary Officers of Health: "Some Effusions and Transudes commonly met with," by Mr. Guy Sutton.

HUGH A. MACCORMACK, Hon. Sec.

Assistant Wanted

IN mixed country practice, must be steady, reliable, capable, and not afraid of work. State age, height and weight, and salary required to live out. Sign usual bond. Permanency if suitable. Address, 2402 V.R. 20 Fulham Road, London, S.W.

As Locum or Assistant

CLASS D student, up in July, served 4 years pupilage in large mixed practice, done several locums. Ride and drive. References. Open March 16th till May 1st. Address, G. H., 31 Southill Park, Hampstead, N.W.

For Immediate Disposal

TOWN practice in Ireland, chiefly canine. Good quantity of drugs and instruments. Hobbles, cross-hobbles, sidelines, slings, pulleys, etc., with office and other furniture, as a going concern. Vendor retiring from practice. Returns about £150. Address, 1035 V.R. 20 Fulham Road, London, S.W.

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MEMBERS of the Profession may obtain Mallein and Tuberculin on application to the Principal, Royal Veterinary College, Camden Town N.W., on the following terms: In bottles, 6d. per dose; minimum quantity supplied, two doses. In hermetically sealed tubes, containing one dose each (specially suitable for use abroad), 1s. per dose.

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RECENTLY qualified M.R.C.V.S., age 25, requires position as assistant or locum in horse practice. Good experience, good horseman. References. Address, 1033 V.R., 20 Fulham Road, London, S.W.

As Assistant

CLASS D student requires a post as assistant in busy country practice. Can come at once. Ride, drive, or cycle. Previous experience. Good references. Board etc., in exchange for services. "X" Royal Vet. College, London, N.W.

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WANTED second-hand portable shoeing forge, large. Address, 1034 V.R., 20 Fulham Rd., London, S.W.

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RECENTLY Qualified Man requires post as Assistant in a good class, busy, country practice. Served pupilage. Ride, drive, and cycle. Good references. Address, 1037 V.R., 20 Fulham Road, S.W.

To Veterinary Surgeons

FINAL Year Student, son of M.R.C.V.S., desires situation as Assistant until May. Country preferred. Free March 15th, references etc. Would arrange for summer vacation also. Address, X.Y.Z., Royal Veterinary College, Camden Town.

For Disposal

SMART two-wheel American buggy, Ideal rubber tyres: take a cob, or 16-hands horse, very good condition; lamps, India rubber mats, American harness complete, price 20 guineas. Address, 1036 V.R. 20 Fulham Road, London, S.W.

All communications respecting advertisements should be addressed to

H. & W. BROWN, 20 Fulham Road, London, S.W.

As Assistant

D Student, strict abstainer, desires post as assistant, has acted in this capacity. Exceptional experience and ability, thoroughly practical. Excellent dispenser and possessed of business habits. References Address, 1038 V.R., 20 Fulham Road, London, S.W.

Wanted Immediately

QUALIFIED Veterinary Surgeon, married, to manage practice, town and country, practical and abstainer, good operator standing. Free house, taxes paid. One requiring permanency will be treated to succession at his disposal. Address, 3103 V.R., 20 Fulham Road, S.W.

Wanted

FULL Particulars of Practice for Sale in good agricultural and residential district returning up to or over £700 per annum. Advertiser has sufficient capital to purchase outright. Address, 1039 V.R., 20 Fulham Road, S.W.

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UNQUALIFIED, used to forge practice, to keep books, assist in dispensing and veterinary work. Permanency and progressive salary to suitable man. State experience, terms, and references, to 1103 V.R. 20 Fulham Road, London, S.W.

Assistant Wanted

THOROUGHLY experienced in town and country practice, must possess good business habits and able to castrate standing. Qualified preferred, sign bond, probable permanency to good man. References, with lowest salary to live out. Address, 2103 V.R., 20 Fulham Road, London, S.W.

To Veterinary Surgeons

MR.C.V.S., (1911) desires assistantship, has seen practice in England, Scotland, and Ireland. Address, X197, c/o Eason & Son, Dublin.

Qualified Assistant

WANTED for permanency, married preferred. Wide district but not heavy, practice includes all animals but no castration, parturition cases frequent. Must be sober, and willing to share all work with principal. Address, S. Beeson, Hereford.

As Assistant or Locum

FINAL year student (29) offers services as assistant or locum, well up in town and country practice, castration, parturition, etc. Ride and drive horse or car. Free March 16th to May 1st. S. H. L. Woods, Ryl. Vet. Coll. Camden Town.

As Assistant

CCLASS D student, farmer's son, up in July, desires position as assistant in country practice, from March 16th to May 1st. Good horseman. Address, G. W. H. Ryl. Vety. Coll., Camden Town, N.W.

Wanted at Once

QUALIFIED assistant for mixed country practice in the Midlands. Apply, stating age, height, weight, and salary to live in. References. Address, 3402 V.R. 20 Fulham Road, London, S.W.

As Assistant

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Assistant Wanted

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Notice

MR.C.V.S. would like to communicate with H. Williams, M.R.C.V.S., late of Lancaster. Address, 5402 V.R., 20 Fulham Road, London, S.W.

Wanted Immediately

QUALIFIED assistant to manage branch practice, (town and country) practical, and abstainer. Sign bond. Reply, stating age, height, and terms required, with references, to 6402 V.R., 20 Fulham Road, S.W.

Assistant

WANTED for a mixed country practice, a steady reliable assistant, must be a good dispenser. Apply, giving fullest particulars as to age, etc., to 7402 V.R., 20 Fulham Road, S.W.

For Sale through Ill-Health.

COUNTRY Practice. Beautiful part. Favourite county. Hunting, shooting, golf, fishing, polo close. Garden, greenhouse, large orchards, paddock, etc. Returns last eight years £390-£420. Price £250 for quick sale. Address, 8302 V.R., 20 Fulham Road, S.W.

As Assistant

RECENTLY qualified M.R.C.V.S. seeks situation as Assistant. Experience in country and town practice. References. 1302 V.R., 20 Fulham Road, S.W.

To Vendors.

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See also page VII.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1234.

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A PRESIDENTIAL ADDRESS.

The newly-formed Connaught Veterinary Association may certainly be congratulated upon its first meeting and its first President. Mr. Hamilton's presidential address, which we publish to-day, contains much that is directly valuable and something also of indirect suggestiveness. A strong note is struck at the outset in the appreciation of the value of co-ordination—a lesson which our profession, despite its motto, is even yet only beginning to learn. It seems to have been grasped in Connaught, with prospective good results.

That a few isolated practitioners, while retaining membership of larger and less accessible societies, should found a small one of their own, is bound to benefit the profession locally. That the new Society should aim at speedy union with the "National," augurs that its influence will be more than local—that it will become a factor in the advancement of the profession as a whole.

Much more of the address, as is natural to a speaker engaged in preventive work, is occupied by a consideration of public health legislation. This, consisting in the main of views which we all share, but more effectively set forth than we have sometimes heard them, need not detain us. Then, towards the end of the address, we note a rather unnecessary apology for the amount of attention given to cattle, with the just excuse that it points out a field of usefulness. In our view, an increasing attention to bovine diseases is a natural and a commendable sign of the times.

The fact is that cattle practice, though it has always been an important part of the everyday work of some of us, has never received its due meed of careful study and attention. Much of this has been due, as was the long neglect of canine practice, to the greater interest and importance of the horse. But the horse will never again figure so largely in veterinary practice as he once did; "new fields" must be sought, and this one of bovine disease, which lies ready to our hands, is as yet only half worked. As an increasing amount of general professional attention is paid to it, it will, we think, prove a rich field of study, in which a skilled veterinarian will be found quite as useful to the farmer as he ever was to the horseowner. Farmers scarcely realise this, for in many country districts most of the cattle practice is done by empirics. Neither, we may add, do all veterinary surgeons; for there are still some, even in the country, who pay little serious attention to bovine diseases. So long as that can be said, we can hardly claim to be playing our proper part in the community.

GASTROPHILUS EQUI AND "STOMACH STAGGERS"—A SUGGESTION.

Two cases have come under my direct observation recently in which grave suspicion attaches to the "Bot" as the exciting cause of death.

When one meets a single case of unusual nature where the symptoms and post-mortem point to a certain cause as possible exciting agent, it is wise to be cautious in conclusions, and to take into good account the far-reaching possibilities of co-incidence, but when a series of cases occurs in which the symptoms are almost the same, and the post-mortem examinations reveal similar indications, suspicion is apt to become a certainty. Two cases, however, hardly constitute a pathological series in the accepted sense of the term, and my opinion on the following observations is given with diffidence, and with the hope that some other practitioner may be able to bring more evidence on the subject.

Case 1.—A six-year-old R.F. Colonial Remount, admitted to the Veterinary hospital for debility and asthenia. Unusually dull and depressed, and in poor condition. Clinical examination revealed no symptoms of organic disease, so the ordinary course of tonics and careful dieting was prescribed.

No improvement occurred, and after a week or so symptoms of brain trouble were evident. One becomes diagnostically acute in the retrospective light of a post-mortem examination, and I confess with shame that the symptoms were typically those of the text book "Stomach Staggers," yet at the time I considered them due to a new growth in the brain. In the later stages the animal would press forward and bruise his nose and head against the manger and walls of the loose box. There was no delirium or undue excitement.

For ten days the horse showed the same dull, sleepy symptoms, eating occasionally and mechanically, with absolute indifference to the nature of the food. He would, for no apparent reason, leave a carefully prepared mash and eat dirty bedding from the floor. Death took place quietly, apparently from inanition.

So strong was my conviction as to the cause of the disease that the usual procedure of post-mortem examination was departed from, and the brain first exposed. It was normal, save for a watery sodden appearance.

On opening into the abdomen the huge bulk of the stomach immediately arrested attention. It weighed with its contents nearly forty pounds. The contents were solid and almost dry, amongst them could be distinguished portions of food that had been given a fortnight or longer before death.

This recognition was made possible by the fact that every obtainable variety of invalid diet had been tried, and a record kept on the chart. The organ was emptied of its food contents and search made for a possible cause of the arrest of the normal course of ingesta. *The pylorus was thickly studded with Bots.* They extended a little way into the stomach anteriorly, and about six inches into the duodenum posteriorly. Some were free in the pylorus. Throughout the whole of above-mentioned area there was not a portion of the mucous membrane unoccupied by the parasites. The rest of the intestinal canal was absolutely empty save for water and mucus.

Case 2.—A raw polo pony, recently purchased in Natal. History of persistent poor condition in spite of liberal feeding and an easy time for over six weeks. I was called about 6 p.m. one day to see the animal which was reported very ill.

It was in a loose box surrounded by farriers and grooms who were endeavouring to prevent evident attempts at suicide. It was already bleeding from self-inflicted wounds on the head. Temperature was normal, pulse accelerated, pupils dilated, respiration hurried somewhat.

The evident brain symptoms, the history of preceding dullness, and the apparent absence of abdominal pain, made it probable that here was a case similar to that of No. 1. The only essential difference seemed to be that one had the "violent" stage or variety instead of the "sleepy" stage to deal with. Prognosis was not hopeful, but I prescribed to the best of my ability and did everything possible before leaving the animal for the night.

At 6.30 a.m. the following day the pony was "down" and obviously *in extremis*. It died in the afternoon. The post-mortem was almost identical with that of Case 1.

Now here are two cases showing the same symptoms and revealing the same post-mortem appearances, in which the only discoverable common factor is the bot. Had the parasites been in any other situation than thickly grouped around the pylorus one would have ignored them, but their position makes their presence worthy of careful consideration. One knows how sensitive the pylorus is to irritation: how unwillingly it allows to pass ingesta of an acid nature. It is conceivable that the irritation caused by the presence of multitudes of bots would induce an almost persistent contraction of the pylorus, allowing fluids to pass, but effectually barring the path to solids or semi-solids. It should be remarked that bots are not nearly so common a feature of post-mortems in this country as in the British Isles. They are the exception—at any rate at this station. A reflection that impressed me while making the post-mortems on these cases was the ease with which one might be misled by symptoms of reflex origin. Here were two apparently typical cases of brain trouble. No abdominal distension, no history or present symptoms of obvious abdominal pain.

In Case 1 the entire failure of two aloetic balls that were given should have aided diagnosis, but

one remembered that in brain trouble peristalsis was reputed difficult of stimulation.

To sum up, the arguments in support of the contention that the bots in the pylorus were the main factors in the gastric impaction are as follows:

1. Irritation, causing contraction of the pylorus.
2. Reduction in the calibre of the lumen by the bulk of the parasites.
3. Friction. The perfect lubrication of the normal intestinal wall by mucus is doubtless largely instrumental in facilitating the onward passage of ingesta, and where, instead of such a perfect surface, there is presented a rough corrugated mass of bots, it is reasonable to suppose considerable resistance to the flow of chyme.

WAKEFIELD RAINEX, Capt. A.V.C.

Bloemfontein, S.A.

ABSTRACTS FROM FOREIGN JOURNALS.

COMPOUND FRACTURE—OSSEOUS SUTURE.

Demazel and Lapperousaz record (*Journal de Méd. Vét. et de Zootechnie*) the case of a four-year-old Gordon setter affected with a compound fracture, of five days' standing, in the inferior third of the leg. The tibia and fibula were fractured obliquely, and the two ends of the tibia protruded from a wound on the interior aspect of the limb. The wound was irregular, and its edges were jagged; it was about 2 inches long by 1.1-fifth in. wide. The adjoining muscular and cutaneous tissues were blackish, hæmorrhagic, bathed in pus, and very œdematous. Closer examination showed that the ends of the bones were denuded of periosteum, and contained a greyish and purulent marrow.

Treatment was undertaken, despite the unfavourable outlook. The region was shaved, and the wound was enlarged upwards and downwards to facilitate the employment of antiseptics, but reduction of the fracture could not be effected. An ordinary dressing (wadding, pasteboard splints, silicate of potassium bandage) was applied over the whole limb, with the exception of the wound. A large "window" was contrived in the splints at the region of the wound, from which the end of the bone continued to protrude.

At first, peroxide of hydrogen was applied three times daily; the wound being re-covered, after each application, with a dressing moistened with the same agent. The general condition of the animal was bad. The temperature was 104° F., and the pulse 120 per minute. Constipation was obstinate at first, but was followed soon afterwards by hæmorrhagic diarrhoea. Appropriate symptomatic treatment was applied to the fever, the digestive disturbances, and the prostration. On the third day the dog recovered his spirits. The wound was rose-red, and "laudable" pus impregnated the dressing. The septicæmia was checked.

The application of dressings, however, damaged

the paste-board material of the splints, the bandage ceased to be retentive, and it became important to immobilise the ends of bone. About the fifth day osseous suture was attempted.

Without anæsthetising the animal, the ends of the bones were perforated by a fine gimlet. After accurate co-aptation of the ends a brass wire of about a millimetre in diameter was passed through the holes thus made and knotted in the wound. A second brass wire was then applied as a circular ligature around the bones above the preceding one. In order to facilitate the discharge of pus and the application of antiseptics, a counter opening was then made upon the external aspect of the limb; and this afterwards proved very useful. The paste-board splints were replaced by thin slips of wood, with "windows" in connection with the wound and the counter-opening. The antiseptics used were now changed several times in the week.

Twenty days after the osseous suture it was found that the two ends of bone were united by a rose-red medullary callus, which joined them firmly in a good position. The primary wound was almost closed, but an oily, yellowish pus flowed from it, and this was found to be due to particles of necrosed bone and periosteum acting as sequestræ. These were removed, and with them the two brass wires, which became mobile at the same time. The limb was consolidated. A fresh dressing, without splints, was then applied; and the supuration ceased at the end of two days.

Nearly three months after his entry into the College infirmary the dog was discharged cured. One of the authors saw him later, and found that the limb had recovered its normal volume, showed no deformation, and was quite supple.—*Annales de Méd. Vet.*)

W. R. C.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

The annual meeting took place at the Great Western Hotel, Reading, on Friday, Feb. 9th, and the gathering proved a very successful one. The President, Mr. Stewart Stockman, London, occupied the chair at the meeting, which was also attended by Messrs. Wm. Hunting, Hon. Associate; A. L. Butters, Hon. Auditor, London; G. E. King, Abingdon; J. H. Parker, Faringdon; Thos. W. Lepper, Aylesbury; R. Page Bull, v.p., Deddington; R. C. Tennant, Windsor; J. C. Coleman, Swindon; W. T. D. Broad, Marlborough; J. R. Baxter, Lechlade; J. Willett, London; S. H. Slocock, Hounslow; Percy J. Simpson, Maidenhead; W. Shipley, Great Yarmouth; W. A. Hancock, Uxbridge; H. C. Jagger, Bicester; H. S. A. Dunn, Reading; and G. P. Male, Reading, Hon. Sec. and Treas. Visitor—Mr. Reginald James, Swindon.

Letters and telegrams of apology were received from Prof. McCall, and Messrs. T. B. Goodall, E. J. Mellett, R. J. Verney, S. Villar, F. Bazley, W. Pauer, J. H. Wilson, John Varney, F. H. W. Cundell, J. Hatch, Jas. East, Wm. Wilson, L. Barnard, R. Roberts, and F. W. Hanks (with whom the meeting expressed sympathy on the cause of his absence, which was Mrs. Hanks' rather sudden death).

NATIONAL ASSOCIATION COUNCIL.

Mr. MALE submitted a letter from Prof. A. Gofton, Hon. Secretary of the Committee, asking this Association to appoint representatives on the Council of the National Association, in addition to the Hon. Secretary, who is a member *ex-officio*, under Rule 36 of the National Association. Messrs. Slocock, Butters, and P. J. Simpson were appointed.

FINANCE.

Mr. A. L. BUTTERS, the Hon. Auditor, presented the statement of accounts. He drew attention to the fact that the balance sheet did not show all the liabilities of the Association. Their Hon. Sec. had not put in his expenses, so that the balance sheet would next year have to show his expenses for two years instead of one.

Two members in arrear having been dealt with, the report was approved.

NEW MEMBERS.

Mr. J. R. BAXTER, M.R.C.V.S., of Downington House, Lechlade, and Mr. F. H. W. CUNDELL, M.R.C.V.S., of Swindon, were unanimously elected members of the Association, on the motion of Mr. Parker, seconded by Mr. Male.

Mr. NORMAN GILFORD, M.R.C.V.S., of Newbury, was nominated for election at the next meeting by Mr. Male.

FUTURE MEETINGS.

At the invitation of Mr. Stockman, it was arranged, on the motion of Mr. Willett, seconded by Mr. Slocock, that the next meeting of the Association be held at Alperton Lodge on the 16th April, Mr. Stockman very kindly saying that he would give a demonstration, or arrange for some one to do so, or read a paper.

Mr. G. E. KING suggested that the summer meeting might be held at Abingdon, a trip on the Thames to form one of the features of the gathering; and the idea met with general approval.

VICTORIA BENEVOLENT FUND.

The PRESIDENT said that the subject was one which commended itself without words. Everybody knew the object of the Fund, but he doubted if they all knew how much distress there really was in connection with the profession. It was true that they were a small profession in numbers, and so they had a comparatively small number of cases; but in relation to the membership the proportion was high. If they could read some of the pathetic letters of thanks that come from recipients of help from the Society he was quite sure that they would be moved to empty their pockets. He asked Mr. Shipley, as one who was well up in the matter, to give them particulars of a matter which he commended to the notice of all.

Mr. SHIPLEY said that most of those present knew he was very interested in that Fund. As their President had told them, there was a terrible amount of distress amongst the widows of veterinary surgeons, and also amongst old practitioners. What he wanted to obtain, if he possibly could do so, was more individual support—rather than collective—for the Fund. Whilst they appreciated very much donations from the Associations, they would very much prefer to have individual members of the Fund. A subscription from a Society did not go very far to help a poor woman with five or six children. Some of the cases were simply deplorable. One of them was the widow of a young veterinary surgeon who died in South Africa, leaving her with seven children, and absolutely nothing to live upon except what she could collect at a lodge in Ireland: and the most the fund could give her was 10/- a week. He wanted individual support also, from another point of view. He knew as a matter of fact that there were

widows of veterinary surgeons, and some old practitioners also, who were too proud to appeal to them, and he hoped all would help in looking up and reporting such cases. It seemed ridiculous to him that with the number of active veterinary surgeons in the country they had had only 105 subscribers until recently. They were now spending about £180 a year, and only the day before there came another appeal from a widow in Ireland. He wanted every man who felt himself able to do so to give an annual subscription and also to take an interest in the work of the Fund. Mr. Shipley further pointed out that the executive of the Fund were over-spending their income; and added that half-a-guinea a year constituted membership.

Mr. MALE reminded those present that the matter was brought up at the last meeting of the Association, and postponed until they knew how their funds stood. Their balance was now fairly satisfactory, and he thought they were in a position to make an annual subscription towards the fund. Hitherto their donations of £10 10s. had been very irregular.

Mr. SHIPLEY, replying to the President, said the desire was to have an annual income that could be depended on, so that the Council could feel that the grants they made could be continued unless circumstances altered.

It was then agreed, on the motion of Mr. MALE, seconded by Mr. KING, that the Association give an annual subscription of £5 5s. to the Victoria Benevolent Fund.

POST MORTEM SPECIMENS.

Mr. COLEMAN showed a specimen of pseudo-conception, which accompanied a fully-grown calf at birth.

A calculus taken from a horse which during the last two years of its life had shown "colic" pains about every fortnight. The calculus was found in the large colon, and when he split it open he found a small piece of horse-nail in the centre; the calculus weighed 10 lbs. 9 ozs.

Another specimen was, he thought, rather unique. It occurred in a four-year-old heifer with her second calf, and he at first thought it was a case of intussusception. The heifer's temperature and pulse were all right, and it showed no pain; but it had no appetite, and passed no fæces, in spite of enemas. Twice a day she would pass about a quart of serum, more or less blood-stained. When he examined this microscopically he found crystals very much like uric acid crystals. It was, evidently, not a case of intussusception; and he did not know what it was.

Mr. MALE exhibited the skull of a horse, with a very small spicule of bone, and explained that the animal from which it was taken had a sinus up the side of the ear, which had apparently been there about twelve months. There was no history of injury. Ordinary surgical treatment having failed to effect a cure, the owner was prepared for serious operation. It was expected to find a supernumerary molar at the base of the ear. The horse met with an accident and was destroyed. No sign of a tooth was found, but simply a small spicule of bone.

The PRESIDENT thanked Messrs. Coleman and Male for bringing forward such interesting specimens for examination by the members of the Association.

VETERINARY EVIDENCE IN POLICE COURT CASES.

Mr. COLEMAN brought forward the question of evidence given by veterinary surgeons in police courts. He began by saying that he believed the object of the veterinary societies throughout the kingdom was to advance and raise the status of the profession generally; and it was much to be regretted that "blacklegs"—or renegades—existed in the profession who could be bought to give evidence. He learned that the Central Association had formed a Committee; and he thought that an old-

established and honourable society like the Royal Counties' Association ought to take some action to support the Central Association, or the Council R.C.V.S., or both, in the matter, in taking such action as would make examples of persons who, by giving false evidence, lower the reputation of the profession.

The PRESIDENT said that, although at present he did not move in the circles of practice in the way that most members of the profession did, he read the Veterinary Journals, and he felt that the question raised by Mr. Coleman was a subject not only of interest but of great importance.

Mr. COLEMAN commented on the evidence given by some of the Inspectors employed by the Royal Society for the Prevention of Cruelty to Animals, and by some police constables, and of the habit in some police courts of magistrates accepting such evidence in preference to that tendered by veterinary surgeons who were called for the defence.

Mr. WILLETT, who had brought the matter before the Central Association, supported Mr. Coleman; and said that in some Courts a practitioner who gave evidence for the defence appeared to be immediately regarded as a hostile witness. A very serious matter in London was the treatment of horses (in the morning) in the green-yard, the appearance of which, they not having been treated, created prejudice against the defendant.

Mr. SHIPLEY spoke very strongly as to the action of the R.S.P.C.A. in certain cases.

Mr. SLOCOCK endorsed Mr. Shipley's remarks. The Royal Society no doubt did a lot of good work, although he thought they were usurping the duties of the police and also of private individuals, the latter, as he showed, having a perfect right to lay an information in any case of cruelty they witnessed, and to have the case properly heard before magistrates. He had taken the latter course himself. There were, and must be, honest differences of opinion amongst veterinarians as to such questions as the causes of lameness in a horse; and professional men could not be expected to confer before they gave their evidence one against the other; but they could sometimes draw closer together if they, as honest practitioners, had a preliminary word together, without stretching their consciences. In the majority of cases, however, he thought that was absolutely impossible.

He thought the members of the profession greatly "gave themselves away" by supplying a Society's inspector with a written report on a case, which those men sent up to the Society, and some of them afterwards embodied in their evidence in the box, putting their own construction on the certificate. What was wanted was, as he had several times said, a Society for the Protection of Horse-Owners, which should have its branches throughout the kingdom. (Hear, hear.)

Mr. BUTTERS said that his experiences in the matter had been some of them pleasant and others very much in the nature of surprises when he had given evidence. He wished to emphasise what he might call the atrocities of the green-yard, from which animals were often brought to Court in a disgraceful condition, having been deprived of the comforts they would get in their own stables. (Hear, hear.) It was cruel that horses suffering from, say, having picked up a nail, or from a festering corn, having come into the hands of the police, should not have immediate attention. A great many cases were not legally defended on account of the poverty of the horse's owner; and in others many horse-owners had come to the conclusion that it was cheaper to plead guilty rather than to fight the case.

Mr. HUNTING said it was a grievance that so many veterinary surgeons called for the defence seemed to be treated immediately by magistrates as "hostile" witnesses. Under the new Act, the penalty for cruelty was much more serious. If anything was to be done it ought to be done now. He thought that when the

green-yard part of the system was made known to the Commissioner of Police he would put a stop to it. (Hear, hear.) As to two veterinary surgeons giving opposing evidence, he would point out that they might fairly differ as to the amount of pain an animal suffered. It was probably a question of cost, and of time, which actuated a magistrate in not calling in a third opinion when there was conflicting professional testimony. He related some amusing cases of differences of opinion in giving evidence, which had led him to the conclusion that in half of them such differences were reconcilable. Cases of flagrant bad evidence by a practitioner should be reported to the Royal College, that the offender might be dealt with.

Mr. TENNANT agreed that where two veterinarians differ on a case the only practical way is to call in a third opinion. He felt that, whenever possible, there should be a veterinary surgeon on the Bench when such cases were heard. (Hear, hear.)

Mr. SIMPSON felt that it was the individual Inspector, and not the R.S.P.C.A. who employed him, who was to blame in certain cases. He agreed with Mr. Slocock that after the Inspector had taken out of their lips what they had to say the veterinary surgeon could only follow on and say that he agreed with the Inspector.

The PRESIDENT said that, as Mr. Shipley had mentioned, he was on the Council of the Royal Society for the Prevention of Cruelty to Animals. About a year ago there was an attempt, as they knew, to eject him, but, being rather obstinate, he would not go. (Laughter, and hear.) They must not, however, think that the Council of the Royal Society was composed entirely of people who held exaggerated opinions. They had to act very much on the reports they had received from their inspectors, whom they were naturally inclined to support, having no means of analysing a case on the spot. The society, who had an income of about £60,000 a year, was able to employ expert counsel in their cases, and the magistrate had to decide upon what he was told. The method was un-British. (Hear, hear.) They did not find it only in police courts but in actions about unsoundness of horses men of well-known authority and honesty would give differing opinions. Lately, in the examination of stallions for soundness, under the Board's scheme—and he had a great deal of experience on that matter—if a horse worth, say, £300 or £500 was condemned by a veterinary surgeon, and so could not get a certificate, its value went down enormously, and the owner naturally said he could not agree to the Board's certificate, but must have an appeal. As a matter of justice all would agree that he should have an appeal; but the appeal was on the lines that men of well-known reputation were employed by the Board. If the owner appealed against a certificate of unsoundness he must with his appeal present a certificate from a qualified veterinary surgeon saying that the defect mentioned did not exist. When there was that difference of opinion the Board sent a third and independent man, and they had to agree with the majority. There must be some working arrangement of that kind; and he (the President) fancied that a magistrate often found himself in such a position. If they could set up an appeal body, established by a central institution, or by the profession, it would be very helpful, but he did not think that was at present practicable.

There were different types of inspectors, as there were of constables, and some of the former doubtless had the "Bobby" mind. Again, a professional man often had a certain amount of a "philosophic doubt," and gave a qualified opinion after hearing the inspector; so that, all round, he did not think the question was one at which the profession should go "bald-headed." They should have a good scheme to present before going to the Home Office or to the higher police officials. (Hear, hear.)

Mr. COLEMAN proposed "That the Royal Counties Veterinary Medical Association most cordially support the Central Veterinary Society in the steps they suggest taking with the object of obtaining more justice in cruelty prosecutions, especially in so far as it affects the professional evidence for the defence. They also heartily approve the suggestion of a deputation waiting upon the Home Secretary and the Commissioner of the Police in the matter."

This was seconded by Mr. WILLETT, and carried.

THE INTERNATIONAL VETERINARY CONGRESS,

The PRESIDENT said that during the last two or three weeks he had been so hardly hit, not only in professional business, but also in connection with various committees, that he had been obliged to tell Mr. Male that while he was awfully pleased to act as president for the year, his time was not always his own. He had been unable to prepare the usual Presidential address for that meeting. He would like to thank them exceedingly for the honour they had done him in making him their president, even with those drawbacks; and he would certainly do his best to carry out their wishes and to carry on the business of the Association to the best advantage as long as he occupied the chair. (Applause).

There was one matter that he wished to speak about at that meeting, and it was important—he referred to the International Veterinary Congress which would be held in London in 1914.

The idea of holding International Veterinary Congresses was first started by a very great British veterinarian, Mr. Gamgee; and he (the speaker) believed that his idea was to hold the first of such congresses in London. Unfortunately, the money could not be found, and so the congresses had been held abroad ever since.

The year 1913 was the 50th anniversary of the movement, and the 10th Congress, because they were only held once in five years. At the Buda-Pesth meeting in 1905 a great wish was expressed, out of a feeling of honour for the originator of those congresses that the 1913 Congress should be held in London. That was brought forward at The Hague, and, practically, they had to accept it, for it would have been a very difficult thing to say "No." He thought that really it would be the general wish of the profession that they should have the Congress in England. It was put off to 1914, because the International Medical Congress was to be held in London in 1913. The Government had promised their patronage, and were going to issue the invitations and to give them certain entertainment, but they could not give them the funds. Many of the veterinary societies were giving annual donations; and it was suggested that individuals should do the same. He wanted to impress upon the Royal Counties Association that they should think about subscribing to the funds, and that every member should do his best to prevail upon every person interested to put his hand in his pocket as deeply as he could afford to do. He wanted everyone to understand that it was not just a question of a guinea, or two guineas, which men had generally subscribed in the past to public schemes of the profession. They would want more than that from those who could afford it, and he hoped that from now forward promises would come in from members. He (Mr. Stockman) was the honorary secretary, and naturally had to do a great deal of the work of the organising, and, equally naturally, he was not going to run the thing into bankruptcy. There would be no excessive expenditure, but if they were going to have those distinguished foreign veterinarians in England they ought to show them what the British veterinary surgeon could do. (Hear, hear.) The subjects to be discussed were of interest to every branch of the profession, and he hoped

that the members of the Royal Counties' Society would move in the matter. (Applause).

Mr. PERCY J. SIMPSON moved, and Mr. KING seconded, a hearty vote of thanks to the President for his conduct in the chair, and for his address; and the same was carried by acclamation.

THE DINNER.

The Annual dinner of the Association immediately followed the meeting at the same hotel. The PRESIDENT occupied the chair, and was supported by the Mayor of Reading (Ald. J. W. Martin), Councillors W. M. Colebrook (late Mayor), and W. J. D. Venner (Chairman of the Cattle Markets Committee), Mr. Dodd (Corporation Meat Inspector), and others. A well-served repast was placed on the tables.

The PRESIDENT, in submitting the loyal toast, said that they had recently welcomed back their Majesties the King and Queen after a great undertaking in their visit to India, and the toast of their Majesties' health would appear the more to the loyalty of members of the profession. (Applause).

The toast was loyally honoured.

Mr. WILLETT next proposed "The Imperial" Forces. He said he yielded to no one in his admiration of the Territorial Forces, but still he held that the Navy was the bulwark of the nation. (Hear, hear.) With regard to the Territorial forces, with which they were more immediately concerned as a profession, they were not behind the veterinarians of any foreign army in the way in which they treated their patients. He believed that, unfortunately, there was a dearth of horses in the Army; and veterinarians looked upon that as a great danger, knowing, as a profession, the importance of having Army horses should occasion arise in the immediate future. He coupled with the toast the names of Capt. Tennant and Major Coleman. (Applause).

Capt. TENNANT, who first returned thanks, referred to the shortness of horses as a very serious question. At the present moment the Army had only sufficient horses to mount 80 per cent. of present regulars, and none whatever for the irregulars. From his own point of view, motor cars and bicycles would be much more serviceable, as cavalry in this country could only be used for scouting purposes, and a bicycle would be better for that. (Hear, hear.) Personally, he thought that for cavalry manoeuvres in this country horses were not wanted; but when it came to a foreign war he did not know what would have to be done. Nobody in England bred cavalry horses, but in Ireland they made it pay. (Hear, hear).

The MAYOR OF READING submitted "Success to the Veterinary Profession." No doubt, he said, they killed a great many more than they cured, which was common also to the medical profession—(laughter, and hear)—but they had much arduous work, and they did it well. His Worship referred to the late Mr. W. G. Flanagan—at one time proprietor of that hotel—as one of the best men he ever knew, and also a veterinarian of the very highest class. When he (Ald. Martin) as a youth had the good fortune of living in North London for two years, he used to pass the Royal Veterinary College in Camden Town almost every day; and he remembered thinking "what clever men there must be inside." (Laughter.) He had no doubt that the "going about" from town to town of the veterinarians was profitable and pleasurable, as it certainly was in the case of the Law Society, to which he (the Mayor) belonged. He regretted the absence of Mr. Councillor John Eigheten that evening. (Hear, hear.) In Reading they took the advice as a corporation of that eminent veterinary surgeon, Mr. Male, in professional matters. (Applause).

Mr. SHIPLEY responded, beginning by thanking the Mayor of the town for the kind things he had said about the profession. While Home Rule, National Insurance and other troubles were worrying the country, the veter-

inary profession were troubled that they could not get their own little Bill through Parliament. As a matter of fact, they were drifting into bankruptcy; and they must do their best to impress upon their local Members of Parliament the importance of the passage of the measure when it came before the House of Commons. (Hear, hear.) While the general use of motor cars and of bicycles was reducing the incomes of veterinary surgeons, he thought on the other hand that the municipal authorities would see the importance of employing members of the profession to give advice on the health of animals and the question of whether meat was fit, or not fit, for food. (Hear, hear.)

Councillor COLEBROOKE said that when he was twice Mayor he received invitations to attend those dinners, and he had very pleasant memories of those happy occasions. That evening his good friend, Mr. Male, had asked him to propose the toast—The Royal Counties' Association—which required no introduction to that company. He himself had had the pleasure of paying many veterinary bills in connection with horses and other animals—alive and dead (laughter), and he must say that owners and slaughterers were immensely indebted to the veterinary profession, not only for their care and attention, but also for their moderate charges. There was no profession in the country to whom those in his business owed so great a debt. He wondered why the members of the veterinary profession did not combine, as the members of the medical profession were doing, to assert their importance. Even in his (Mr. Colebrook's) trade they were so organised that they could face Parliament and everybody who tried to disturb their business. He congratulated the Association on having as its President so distinguished a gentleman as Mr. Stockman, the head of the Veterinary Department of the Board of Agriculture. (Applause). No department got more "blackguarding," and yet he said with confidence that to no Government department was the country more indebted than to the Veterinary Department of the Board, whose infinite pains and research were invaluable to the agricultural industry. (Hear, hear). They warmly welcomed not only Mr. Stockman, but also Mr. Male. (Applause).

The PRESIDENT, who was heartily applauded on rising to respond to the toast, thanked Mr. Colebrook for the kind and very frank way in which he had proposed the toast of the Association. No doubt members of the profession killed many animals in trying to cure them—(laughter)—but they also killed them for the benefit of the community. (Hear, hear). He had lately given evidence before a Commission, which he thought would be endorsed by the majority of his colleagues in the profession, that if they were going to deal with a disease like foot and mouth disease, to prevent its spread they must not only kill the affected animals and those immediately associated with them, but also those within a reasonable distance where the disease was likely to spread. That was a serious thing. None of them liked slaughtering right and left; but if they thought what was likely to happen if the disease spread all over the country there was no argument, as a business proposition, against the slaughter of, say, 300 animals to prevent its spread, seeing that every affected animal lost from £2 10s. to £3 per head. Some stock-owners black-guarded the Board of Agriculture, and the Veterinary Department of the Board in particular, but he was glad to say that when they were in distress one of the first departments they ran to was the Board of Agriculture, and the Board gave them the best advice they could for their benefit. (Hear, hear). In conclusion, the President repeated his remarks at the business meeting in reference to the forthcoming International Congress of Veterinary Surgeons.

Mr. COLEMAN, in felicitous terms, submitted the toast of "The Mayor and Corporation of Reading," and

touched on the recent expansion of the boundaries of the capital town of the Royal County. He suggested that Veterinary Reports should always be read by the veterinary surgeon and not by the Medical Officer of Health.

The MAYOR suitably responded; and said the Corporation always acted on the advice, in veterinary matters, of their friend, Mr. Male.

Mr. HUNTING gave the health of "The Visitors," and Mr. VENNOR replied, expressing regret at the absence of Dr. Stewart Abram (Chairman of the Reading Sanitary Committee), who had hoped to be present that evening.

During the after-dinner speeches, Mr. Leonard T. Moon, a well-known humorist, gave an entertaining selection.

EASTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

A meeting was held on Tuesday, Feb. 13. at the Royal Hotel, Norwich. The retiring President, Mr. T. G. Heatley, Woodbridge, was in the chair, and there were also present: Messrs. Wm. Hunting, London; T. E. Auger, Wymondham; H. Buckingham, R. B. Palmer, A. H. Santy, H. P. Standley, Norwich; A. Holl, New Buckenham; W. L. Little, Wm. Shipley, Great Yarmouth; E. H. Leach, Newmarket; A. McTurk, Swaffham; J. Robertson, Stalham; Philip Turner, Ixworth; F. B. O. Taylor, Weston Longville; Wilfrid Waters, Blofield; and Sidney Smith, jun., Hon. Sec.

Apologies for absence were announced from Sir John M'Fadyean, Messrs. N. Almond, W. Burt, Wm. Bower, J. Clarkson, F. T. G. Hobday, F. L. Gooch, J. K. Gooch, J. Barr, M. Bray, W. J. Browninz, J. Cleveland, John Hammond, sen., J. E. Kitchen, E. Margaron, F. Morton Wallis, W. M. Reeman, C. C. Nesling, Sidney Smith, senr., J. F. Thurston, E. W. Wright, and H. E. Wilkinson.

Messrs. A. F. CASTLE, Gt. Yarmouth, and GORDON MACINTYRE, Beccles, were nominated for membership on proposition of Mr. Shipley, seconded by the Secretary.

CORRESPONDENCE.

The SECRETARY said he had received a letter of resignation from Mr. Hewer, formerly of Wymondham, who had gone to Swindon. The resignation was accepted with regret.

A letter was read from the Royal Sanitary Institute with reference to the Congress to be held at York from July 29th to Aug. 3rd, inviting the Society to send a delegate. The Secretary said they had not sent a delegate for the last few years.

Mr. W. HUNTING thought it would be a pity to miss the conference.

Mr. SHIPLEY moved that a delegate be sent.

Mr. T. E. AUGER seconded, and it was carried.

It was agreed that the Secretary should attend the Congress as delegate for the Society.

The circular letter from the Association of Veterinary Officers of Health was read.

SECRETARY'S REPORT.

Mr. S. SMITH: I thought that possibly a short review of the past year's work of the Society might be of interest to the members.

The annual meeting at Norwich was fairly well attended, about twenty being present. A paper was read by Mr. William Shipley on "The recent Orders of the Board of Agriculture."

The summer meeting at Bury St. Edmunds was very poorly attended, but those who were present contrived to make the meeting a most interesting one. Several

post-mortem specimens were exhibited, and most of the members present contributed clinical reports.

It would seem that the summer meeting, which is almost invariably badly attended, might with advantage be devoted to the discussion of clinical experiences; it is certainly most unfair to ask anyone to read a paper to an audience of ten.

The attendance at the autumn meeting at Yarmouth consisted of twenty-nine members and three visitors. A most interesting paper was read by Mr. Leslie Sheather on "Vaccine and Serum Therapy as applied in Veterinary Practice." The President generously entertained the members and their ladies at lunch, previous to the meeting.

During the past year we have lost a member, Mr. J. R. Hewer (who has left the district), and gained one, Mr. A. McTurk, of Swaffham.

In presenting the balance sheet, I am glad to be able to show an increased balance in hand despite the fact that two years' election expenses are included. For those who may wonder what the item of incidental expenses is composed of, I have prepared a statement. I am pleased to be able to state that all arrears have been paid, and as a matter of fact all the 1911 subscriptions have been paid. I have to thank Members for their ready response to my applications. I am afraid I have been somewhat importunate, but I think you will agree that the end has justified the means.

The only real cause I have for a grumble is that several members on the occasion of every meeting omit to send a reply. I quite appreciate the difficulty of being able to forecast whether one will be able to get away, but at any rate it would be possible to fill up the postcard the day before the meeting.

CASH ACCOUNT, 1911.

Receipts.

Balance at Bank, January 1st	£20 17 8
Subscriptions, 47 members at 10 6	24 13 6
Arrears	5 5 0
Entrance Fee	10 6
	£51 6 8

Payments.

Arnold and Sons, Tooth Shears	£4 15 0
Canham—February Report	2 2 0
" July Report	2 14 0
" September Report	2 2 0
Part Share Election Expenses, R.C.V.S., 1910	2 4 0
" 1911	2 4 0
Victoria Benevolent Fund Donation	2 2 0
Printing and Stationery	3 5 6
Lecturer's Expenses, Autumn meeting	1 1 0
Incidental Expenses	2 8 10
Stamps, (243 letters, etc.)	1 0 7
Cash in hand	11 0
Balance at Bank	24 16 9
	£51 6 8

SIDNEY SMITH, jr., Hon. Sec. & Treas.

Examined and found correct,

WM. SHIPLEY, Jan. 2, 1912

W. M. REEMAN, Jan. 25, 1912 } Auditors.

COMMITTEE'S REPORT *re* INSTRUMENTS.

1. Tooth forceps: both pairs have sprung handles, and should be sent away to have this corrected. Mouth Gag: rubber worn, needs replacing.
2. Two new Tourniquets are required.
3. The Neurectomy instruments require a pair of scissors to complete the set.
4. The Thermo-Cautery is useless, and as it ap-

parently has never been asked for, there is no need to replace it.

5. A case should be obtained locally for the new tooth shears, so that they can be sent with safety by rail.

It was agreed that the recommendations of the Committee should be carried out, and that the instruments should be in charge of the Secretary.

Mr. SHIPLEY said the tooth shears were in constant request and were the most sensible purchase they had ever made.

The report and balance sheet were adopted on the motion of the President, seconded by Mr. Turner.

ELECTION OF OFFICERS.

President.—Mr. LEACH, of Newmarket, was unanimously elected.

Vice-Presidents.—Messrs. T. G. HEATLEY, F. B. O. TAYLOR, and P. TURNER were elected on the motion of Mr. W. L. Little, seconded by Mr. A. H. Holl.

Committee.—Messrs. Sidney Smith, senr., T. E. Auger, J. K. Gooch, J. Barr, H. P. Standley, W. L. Little, and H. Low were re-elected upon the motion of Mr. Shipley, seconded by the Secretary.

Auditors.—Messrs. W. SHIPLEY and W. M. REEMAN were re-elected, on the motion of the Chairman, seconded by Mr. Turner.

Hon. Sec. & Treas.—Mr. SIDNEY SMITH, junr., was re-elected, on the motion of the Chairman, seconded by Mr. Little.

THE NATIONAL VETERINARY ASSOCIATION.

The SECRETARY said they were entitled to send the Secretary and two other representatives to the Council of the National Veterinary Association, and he moved that Mr. Leach (President), Mr. Heatley (retiring President), be elected.

Mr. SHIPLEY seconded, and expressed surprise that there should be only 47 members of that Society which covered Norfolk, Suffolk, Essex, and part of Cambridgeshire. Some special effort ought to be made to induce every veterinary surgeon in these counties to join them. Now that the Society had become affiliated with the National Veterinary Association they ought to become a strong force in the profession to air their grievances and to help them in any struggles they might have to enter upon in the future. One never knew whether some scheme for helping small holders might not be brought forward, under which veterinary surgeons would have to look after stock at very low fees. Combination was now-a-days a very important factor in labour and professional circles, and they should endeavour to make their Association as strong as possible. Perhaps as an inducement to men to join the Society they might drop the entrance fee for a year and issue a special circular to all non-members residing in the district.

The SECRETARY said that at the beginning of his career as secretary he sent notices to nearly all the veterinary surgeons in the district who were not members, and he did not receive a reply from anyone of them. The only way to get new members was to use personal influence.

The CHAIRMAN did not think they ought to drop the entrance fee. If a man wanted to join a half-guinea entrance fee would not stand in his way. He thought with the Secretary that personal influence would do more than circulars.

THE INTERNATIONAL CONGRESS.

The SECRETARY said that last year they gave a donation of two guineas to the Victoria Benevolent Fund. This year he thought they ought to seriously consider the claims of the International Veterinary Congress. Having read a printed letter on the subject, the Secretary circulated a blank list and invited subscriptions to

the funds of the Congress, which, he said, might be paid in three annual instalments.

Mr. SHIPLEY said for many years the Society had subscribed to the Victoria Benevolent Fund. During the last 12 months he had taken over the secretaryship of that fund, and he wished to say how much he appreciated the kind response to his appeal to them to become members. When he took up the work he knew there was a great deal to be done for the relief of necessitous widows of veterinary surgeons. He was proud to say there were more members of the fund in Norfolk than in any other county. Now that so many of the veterinary surgeons in Norfolk were members of the fund he hardly thought it necessary for the Society to subscribe. He wanted them to subscribe individually. The International Congress to which reference has been made was originated fifty years ago, and the next one was to be held in England. When the Congress was held on the Continent the different Governments had been in a position to make grants towards the costs, but this could not be done in England; hence the need for raising a fund. It would be a very important Congress, and veterinary surgeons from all parts of the world would attend it. The result of the Congress would be to improve and elevate the position of the profession in England, and he hoped it would be made worthy of the veterinary surgeons of England. (Hear, hear.) He proposed that ten guineas be annually set aside for three years for the funds of the Congress.

The SECRETARY said about £4,000 was wanted for the Congress.

Mr. TURNER seconded the motion, and it was carried.

COUNCIL ELECTION R.C.V.S.

On the motion of Mr. Shipley, seconded by Mr. J. Robertson, it was agreed to join with the Lancashire and Yorkshire Veterinary Medical Associations as previously. Mr. Shipley appealed for support for Mr. Clarkson, who is a candidate for election.

THE NEXT MEETING.

On the motion of Mr. Shipley, seconded by the Chairman, it was agreed to hold the next meeting at Newmarket or King's Lynn, according to the wishes of the President.

SOME JOINT DISEASES OF THE HORSE.

By WILLIAM HUNTING, F.R.C.V.S.

The joints I wish to refer to are the moveable ones, made up of two or more bones joined together by ligaments and supplied with cartilages and synovial membranes. I shall limit my remarks to joints of the limbs.

The pathological conditions involved are those of inflammation in its various stages, with complications due to micro-organisms. The inflammatory process in joints causes very diverse clinical conditions, as it affects one or more of the structures of the joint. Ligaments when torn require a long time for repair. Synovial membranes are very sensitive to inflammation. Bone when inflamed is apparently less able to withstand destructive change than softer tissues. Cartilage seems to have little resisting power against inflammation, and even less energy for repair. When all the joint-tissues are affected we have a case which is indeed grave. When only ligaments and synovial membranes are affected we expect complete recovery, but when bone and cartilage have suffered from inflammation there is little hope of permanent resolution in a joint.

The simplest form of joint disease in the limbs of horses is that resulting from injury—bruise or sprain. Of bruised joints probably the knee is the one most frequently injured, whilst sprain is most common in the fetlock. What is called "sprung-hock," a condition in which the whole joint is enlarged, hot and painful, is,

I believe, the result of sprain. The coronary and pedal joints are said to suffer from sprain, and the damage to the ligaments is looked upon as the direct exciting cause of ringbone. This explanation I do not accept. If I have ever seen a case of sprained ligaments of the coronary or pedal joints I confess I did not diagnose it. In indubitable cases of sprain of hock, knee, or fetlock, although much effusion takes place with more or less permanent thickening, even to the extent of fibrous ankylosis, I have never discovered on post-mortem examination any destructive inflammatory change in the joint, and have been surprised to find the cartilages clean and unaltered in colour. Very different is the appearance of a joint in which inflammation has attacked the bone or cartilage: then we find degenerative changes which are the cause of permanent lameness.

Concerning sprains of the ligaments of joints or inflammation resulting from bruises, there is only one point I intend to refer to—treatment. In both these injuries we have tearing or stretching of ligaments with synovitis. Effusion takes place into the joint and surrounding tissues. Our object in treatment is to check, if possible, the effusion, and then to allay pain and promote absorption. Repair takes place when the inflammatory process subsides, and the less the effusion among the tissues the more thorough is the repair.

In the very earliest stage of a sprain, cold, in the form of continuous irrigation may check the effusion, but this stage is seldom or never seen by us; it cannot remain many hours.

When inflammation has reached the stage at which the blood in the vessels is almost stationary and effusion is plentiful, then I think cold is likely to do more harm than good. This stage of the case requires warm fomentation, to allay pain and to establish an active circulation in the surrounding blood vessels of the damaged part. For a day or two this may be continued, and then resort should be had to dry, even pressure, with gentle massage. Pressure is applied by means of a linen bandage with a good thick layer of cotton wool between it and the joint. The bandage should be removed at least every twelve hours, and left off an hour or two. The massage should be done with the hands—a gentle firm pressure in one direction—with the hair. As soon as the horse can stand fairly on the lame leg walking exercise should be commenced, with a duration say of ten minutes at first, and gradual extension every day unless pain is increased. The horse should, of course, be in a loose box, not tied up.

In chronic cases where some enlargement remains and where the motion of the joint is limited, the worst thing to do is to limit active motion by not exercising the horse, and the next worse treatment is to blister. To blister the swelling caused by a bruise or a sprain is almost certain to render it permanent. In addition to massage, a joint that is limited in its motion by effusion or by fibrous thickening should be forcibly flexed and extended for some minutes every day. I say forcibly, but I do not mean violently.

Fracture into a joint is a serious injury, but not always incurable. I used to think that fracture of the acetabulum must necessarily cause permanent lameness, but there is a specimen of united fracture in the Dick College museum taken from a horse that did eight years work after the injury was inflicted. Then there are the more common cases of split-pastern that make good recoveries and resume work. But recoveries are not the rule. In all the recovered cases I have seen post-mortem the union by bone did not extend into the joint, there was no reproduction of cartilage over the fissure, but there was a layer of fibrous tissue. When lameness still existed and the fracture was united by bone there was polishing of the surface.

The diagnosis of some fractures into joints is impossible without the assistance of X-rays. In some

there is sufficient deformity, or there may be crepitus to help us.

Provided that a fracture into a joint heals without much displacement, and that fibrous union takes the place of the cartilage separated by the fracture, soundness may return. But there is always a probability of destructive changes taking place in the articular cartilage, and of ossific invasion of the ligaments ending in complete or partial ankylosis of the joint.

How far pathological destruction of cartilage may take place and be followed by resolution I am not certain. Changes take place in this order—swelling, opaqueness, fibrillation, thinness, grooving, discolouration, necrosis. I have not been able to get sufficient post-mortem examinations of joints, with a full history of the cases, so as to compare the lesions with the clinical symptoms. From what I have seen I believe that when fibrillation and grooving have taken place there is no return to soundness, but a constant advance to greater destruction. The only clinical sign of destructive inflammation of a joint is the quantity and quality of the pain exhibited. Of course pain is acute in all recent injuries, but after a few weeks it subsides. When, however, an injured joint remains acutely painful and the primary inflammation has had time to abate, we may infer that chronic arthritis is established and will continue.

These cases of joint-disease, due to direct injury, are more simple and more easily understood than a group I shall next consider. These may be classified as "Arthritis following Ostitis." The best example of these is what, in London, is called "Cab-horse disease." A fully developed case presents lameness and a well-marked enlargement on the inner head of the suffraginis, *i.e.*, on the inner and lower part of the fetlock joint. The enlargement does not occur as the earlier sign. There is always lameness before any bony swelling appears, and lameness may be the only symptom for weeks. It is often intermittent, and sometimes very acute. Post-mortem examination shows, in every case in which the bony enlargement is found, some articular change not only in the articular cartilage but in the head of the bone. Even in cases where no bony enlargement exists you will find these articular changes in the cartilage and in the bone. I think, then, we may conclude that the first cause of lameness is due to ostitis—inflammation in the bone, and that it is the progress of the ostitis which causes the articular lesions and the periostitis.

My own experience of these cases is that no treatment is of much avail. They do not yield to blistering or firing, so we have only neurectomy as a means of removing the lameness. An ordinary plantar neurectomy is useless, as the fetlock region is not rendered insensitised by this operation. A median neurectomy is effective, and we may hope for some months work without lameness. After a median neurectomy it is not uncommon during the first few days of resumption of work to have a fractured pastern—a thorough comminuted fracture. This sequel, I take it, is a further proof of the disease being an ostitis, because there is only one explanation of the fracture, *viz.*, that the bone is softened by inflammation and yields to the forcible concussion which results from the horse putting his foot down as though the limb were healthy, instead of merely insensitive in its weakest part.

Ringbone is another condition which should be classed as a joint disease, although the most prominent symptom is a bony enlargement. There are two views as to its origin; one that it commences in sprain of the ligaments, and that then bony invasion of those structures occurs, and finally involves all the ligaments of the joint. Another theory is that we have an ostitis commencing in the bone which progresses until it involves the joint and its surrounding ligaments—an analogous course to that followed in Cab-horse disease.

Those who hold that the disease originates in the ligaments say very little about the arthritic lesions. Those who accept the ostitis as the primary mischief point to the presence of marked lesions in the joint affecting the cartilages and the head of the bone. It is unusual to have chronic articular disease as a sequel of sprained or injured ligaments. It is quite usual to have articular lesions as the result of a spreading ostitis.

There is a very common condition known as false-ringbone in which very large masses of bone are formed on the pastern and coronary bones. It is rather remarkable that they never cause articular disease, as seen in the true-ringbone. They are distinct and different pathological conditions, and should not be called by the same name. In both there are bony enlargements, but in one there is articular disease, and this lesion is the essentially important one as applied to the soundness of the horse. The bony lesion may cause no pain—the articular is always a cause of pain—it is incurable. Lameness from ringbone is not merely mechanical, even when complete bony ankylosis of the joint has taken place. There is within the ring of bone a destructive arthritis.

Another joint disease which I consider is primarily an ostitis is spavin. Here we have an inflammation commencing in the bones of the hock and extending until it implicates the articular surfaces and the periosteum. It is rather remarkable that this inflammatory process should seldom be destructive. Given that work is stopped when lameness appears, the majority of spavined hocks become sound—at any rate lameness ceases, and the small bones become fused together.

Sometimes articular inflammation of the hock does not cause periostitis with the resulting visible spavin. It causes destruction of the joint cartilages and extensive necrosis of bone. Ordinary spavin tends to a constructive process—a consolidation of the bones accompanying the removal of cartilage. Occult spavin shows little consolidation but extensive and continuous destruction of cartilage, and necrosis of bone. I confess I do not understand why we should have this difference in the lesions of ordinary spavin and of so-called occult spavin. Are they distinct diseases due to different causes, or only to difference in the direction or intensity of the inflammatory process?

As to the causes of these ostites, it is certain that in ringbone and in spavin heredity plays a large part. It is equally certain that work is a cause. Work produces fatigue, and is accompanied by concussion of the joints and bones of the limbs. Just how concussion should cause ostitis I do not know, but I think there is no doubt that it does so. Below the hock and knee the position of the bones and joints seems to be most favourable for injury by concussion. When we go higher up the leg we should be inclined to think that the angles of the bones would be unfavourable to jars and uneven or excessive pressure on joints or bones. It is borne out by experience that in the joints and bones above the hocks and knees we find much less disease that can be credited to concussion than in those below. But we do find some.

The stifle joint suffers from chronic arthritis, and the lesions are nearly always of the same kind—denudation of cartilage and polishing of articular surfaces of the bones. Sometimes the lesions are found between the patella and the femur, sometimes between the femur and the tibia. In most cases there is an excessive amount of synovia in the joint, but it collects slowly—not as in sprain, rapidly and suddenly.

The cause of these stifle-joint lesions I do not understand. I have not been able to trace any direct injury, such as bruise or sprain. As a rule they commence without any visible change in the joint, and gradually get worse. So far as I know they are always incurable.

Whether they commence in the bone or in the cartilage is not apparent. On post-mortem examination both structures are affected, and not much change is visible in the other parts of the joint. Everything considered, I incline to think that the primary lesion is in the bones.

Perhaps I may mention here a remarkable difference in the lameness produced by stifle lesions when they are found between the tibia and femur, and when between the patella and femur. In the latter case the leg at rest is held with the foot on the ground, and all the joints seem extended, whilst the muscles in front of the femur are contracted to an extent giving them a rigid appearance.

When the lesion is between tibia and femur the most striking symptom is the foot being raised from the ground and held forward. This condition has been described under the title Gonitis.

There is another class of joint disease to which I may briefly refer—that due to invasion of micro-organisms.

An open joint is at all times dangerous, but chiefly from the fact that it may admit pus-producing organisms. Once admitted, the destruction of the joint is rapid, and changes in the cartilage take place in a few days as severe as those resulting from inflammation that has existed for weeks or months in a closed joint. An open joint should be treated with the utmost care immediately on its discovery—we may prevent it becoming septic, but once septic arthritis has been set up the case is almost, if not quite, beyond successful treatment. My experience of septic open joints includes stifle, elbow, hock, knee, fetlock, and pedal joints, and I don't remember one that did any good. I regret to say that I have not tried washing the joint out with antiseptics, a course that seems to offer useful possibilities.

The extreme danger of septic arthritis should make us doubly careful about all wounds in the neighbourhood of a joint, especially those near the elbow and stifle. Purulent wounds near these large joints, although at first having no opening into them, have a tendency to invade the articulation. Probably any joint may become infected through proximity to a suppurating wound. The pedal and coronary joints frequently suffer by spread of infection from a suppurating wound of the coronet, and this may occur with no direct continuation of the wound into the joint. Mr. Willis has described two or three cases in which the upper articular surface of the os coronæ has been the seat of destructive septic invasion as the result of a suppurating wound on the coronet, and yet no sign of disease was found in the tissues intervening between the wound and the bone. I presume the infection in such cases is carried by lymphatics.

Infection of joints through the circulation is not common in horses. The septic arthritis of foals and calves is an illustration, but, as a town practitioner, I can claim no experience of these cases.

Other specific diseases sometimes cause joint infection. Tuberculosis has frequently been seen as an infection of the cervical vertebræ, but I am unaware of any other joint in horses having been found tuberculous.

Glanders seldom attacks the joints. In only one case do I remember this disease causing joint trouble, and then it gave rise only to synovitis and some distension of the hocks and fetlocks. These symptoms gradually disappeared, work was resumed, and death occurred about 12 months later from glanderous pleurisy. This case was one of farcy, and previous to the Order of 1907.

Rheumatism may have been the cause of joint disease in the horse, but I have never diagnosed such a case. I think I have seen rheumatism of muscles, and I feel sure I have of tendons and their sheaths. There are no

objective symptoms to assist recognition, and I rely entirely upon the shifting about of the trouble, with failure to detect any other cause.

DISCUSSION.

Mr. LEACH produced the bones of a young horse, which was killed at the age of one year and five months after it had been lame seven months. The horse had never been shod and had never worked. This was a case of arthritis caused by rheumatism. He expressed the opinion that many ringbones were not hereditary, but were due to various causes.

Mr. SHIPLEY said he was especially interested in the joint disease which was commonly called cab-horse disease, and he was a little surprised that Mr. Hunting should say that neurectomy was of no avail. He did not agree. He knew it was of avail. Mr. Shipley described cases in which he had unnerved the animal with success. Ulceration of bones in the hock without any considerable signs of spavin often occurred. He had found tubercular lesions in the joints of cattle. He was glad Mr. Hunting did not touch upon the subject of heredity. Now the question of Mendelism had cropped up they would be in a difficult position to know what heredity was. It seemed to him impossible nowadays to suggest that disease was hereditary. He supposed they would have to wait for the investigations of scientific men to prove that some of the suggestions as to the hereditary nature of spavin or ringbone were quite mistaken, and that there must be some other cause. He had two or three very troublesome cases of suffraginitis and coronitis. In one case a colt, or a two-year-old filly, was very lame. Nothing could be found in the foot, and eventually a small place broke out on the coronet, and in a few days the mare was in a state of excruciating pain, and was slaughtered. He split open the joint and found a portion of os corona, cartilage and bone, sloughed out as big as a shilling. Undoubtedly the original lameness occurred in the joint itself. Mr. Hunting had introduced a subject worthy of considerable thought, and one that might open their eyes very much as to some of the difficult cases of lameness with which they had to deal.

The CHAIRMAN said they did not see much of cab-horse disease in the country, but the nearest approach they got to it was a lameness when they could see nothing to account for it, as in disease of the pyramidal process. Mr. Hunting's remarks about ringbone were interesting. Apparently all true ringbone must be ostitis. In cart horses they got what was called false ringbone. This was apparently periostitis. It was very difficult when one was examining a horse to say whether the enlargement was really ringbone or not. His experience was that they often got this enlargement round the pastern bone without lameness. It was the exception to find lameness. It would be well if it were distinctly settled what should be termed ringbone. Another joint lameness found in yearlings was stifle lameness. He would be interested to know what the origin of that was, because nearly all presented the same symptoms. They got a swelling of the joint and a lot of effusion into the joint, and a peculiar straight condition of the hock. He had treated these cases with an injection of Lugol's solution of iodine, and in some cases there had been considerable improvements.

Mr. LITTLE said something had been said about the nomenclature of diseases. It struck him it would be better if they could abandon the practice of giving nicknames to diseases. Spavin, ringbone, splints were all nicknames, and it would be far better to call them ostitis or periostitis of a certain joint. It would lead to less confusion, because now different men called the same disease by different names. Mr. Hunting had mentioned unnerving horses for fetlock disease; would

he tell them how high up the leg the disease had to be for unnerving to be satisfactory, and whether it was necessary to take every nerve out.

Mr. HUNTING, in responding to the discussion, said he was very pleased to see the specimens brought forward by Mr. Leach, because they would remove some of his scepticism about rheumatism and joint disease. Mr. Leach was quite sure there was no blood poisoning in this case, and yet he had distinct arthritis, and so he (Mr. Hunting) yielded that point, and confessed to having learned something that day. As to the nomenclature of these diseases, he quite agreed that something ought to be done, because the names were not only at times accidentally misused, but sometimes wilfully. Take the nomenclature of such a thing as cab horse disease. It was too awful. He did not see why they could not call that suffraginitis, really a nice word, and it would express what was meant. In law cases this mixed nomenclature had a bad effect. A man went into the witness-box on one side and said, "This horse suffers from ringbone," and that evidence he gave honestly, believing he was fairly describing a bit of periostitis on the Another man who pinned himself to ringbone always being a disease implicating a joint, positively denied the existence of any ringbone in the case, and for fear he should give away his own side would not even acknowledge a bit of periostitis. Thus the two were made to appear absolutely opposed to each other, whereas in truth it was only a fooling with words. Mr. Shipley had stated that plantar neurectomy would have a good effect sometimes on fetlock trouble, and that was no doubt the result of his experience, but he (Mr. Hunting) was sure when Mr. Shipley had done a few more he would be much disappointed. There were only about three troubles in the fetlock, and he had done neurectomy and got both nerves, and yet the horse was as lame after he had been done as he was before. Median neurectomy was something to be applied to all troubles, including the fetlock and above it, and also to that extremely valuable class of lameness—you did not know where it was. You might catch it, but even the best anatomists did not know all about the distribution of the nerves. There were cases in which median neurectomy was performed, and the horse went well for a time, and then bad again. Where was that horse lame? He did not know. There were very curious distributions of nerves which puzzled the very elect.

It would be extremely useful, not merely from a physiological point of view, but from a jurisprudence point of view, if they could know exactly what changes took place in a joint, and how it was that some cases never got better and always got worse. Even in a tremendously distended joint they would find no change in the cartilage at all, and yet experts would tell them that the mere fact of a joint being full of fluid would make it soak into the cartilage and soften it. It would if it were a bit of dead leather, but there was no soaking in the living tissues so long as they were healthy. Twice in his life he had found what he thought was a grand bone specimen. He remembered a hock that was absolutely unmoveable. It was not a diffuse swelling, but was defined. He secured that and gave the man an extreme tip to boil it in a net and let him have the bones. The result was all fibrous ankylosis. There were huge masses of fibrous material, but no trace of any injury to the cartilage. There was fibrous ankylosis and no damage to cartilage. If they got ostitis it hardly ever escaped damage to the cartilage.

A hearty vote of thanks was accorded to Mr. Hunting, on the motion of the Chairman, seconded by Mr. Leach, and this concluded the proceedings.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

A general meeting was held at the Dolphin Hotel on Wednesday evening, January 31st, 1912. Principal A. E. Mettam occupied the chair, and there were also present: Messrs. J. McKenny, B. P. J. Mahony, Col. J. Moore, M. Hedley, W. Chambers, F. A. Heney, Jas. Doyle, W. H. Wilkinson, A. J. Moffett, P. D. Ready, J. F. Craig, A. Watson, C. M. Griffin, P. J. Howard, L. M. Magee, J. Holland, and G. W. Tyson.

The minutes of the last meeting were adopted, on the motion of Mr. Chambers, seconded by Prof. Craig.

Letters of apology were received from the following members for inability to be present: Messrs. Vahey, Dobbins, Johnston, Elkins, Norris, R. H. Lambert, Hamilton, and P. J. Howard.

The PRESIDENT said he regretted that a member, Mr. Norris, had met with an accident, but they all hoped he would soon be out and about again. (Hear, hear).

REPORT OF COUNCIL.

A meeting of the Council was held on January 16th, Mr. W. Chambers presided, and there were also present: Messrs. Jas. McKenny, Prof. Craig, P. J. Howard, W. Cargill Patrick, W. H. Wilkinson, F. A. Heney, Prof. O'Connor, M. Hedley, and A. Watson.

Letters of apology for non-attendance were read from Messrs. J. H. Norris, J. B. Dunlop, J. Holland, P. D. Reavy, Lieut.-Col. Steel, and the President.

A letter was read from Mr. Faithfull Davies intimating that a Congress, under the auspices of the Société de Pathologie Comparée would be held in Paris in October, 1912.

The Annual Meeting and Dinner were arranged to be held at the Dolphin Hotel, Dublin, on January 31st. Arrangements were made for the annual election of Officers and Council. In addition to those eligible for re-election without nomination the Council made the following nominations: President, Mr. P. J. Howard; vice-president, J. B. Dunlop; secretary, Prof. O'Connor; Council, L. M. Magee, M. Barlow.

It was proposed by Mr. Hedley, and seconded by Mr. McKenny, that the sum of £2 be allocated from the funds of the Association for expenses in connection with the Annual Dinner.

The following accounts were ordered to be paid: Messrs. H. and W. Brown, £2 5s.; Messrs. Brindley, 16s. 6d.; Hon. Secs. expenses, postage, etc., £3 19s. 9d.; Clerical Assistant, £5.

The Sub-committee appointed to consider the Rules of the National Veterinary Association met on January 16th. There were present Messrs. James McKenny, Prof. Craig, P. J. Howard, W. C. Patrick, and A. Watson. Professor Craig was moved to the chair.

The following resolution was proposed by Mr. Watson, and seconded by Mr. Patrick:—

"We, the Sub-committee appointed by the last general meeting, do recommend the Veterinary Medical Association of Ireland to accept the proposed Rules, and further, we recommend the Association to affiliate with the National Veterinary Association." There voted for the resolution: Messrs. Watson, Patrick, and Prof. Craig, 3; against, Messrs. McKenny and Howard.

Mr. MOFFETT proposed that the report of the Council be adopted. Mr. MAHONY seconded.

Mr. JAS. MCKENNY said that the report of the committee was very brief. That was good, but he might as well tell them that the discussion at the meeting convened for its consideration was nearly as brief. The great point raised for it, and the only point he knew which was feasible, and which they could rely upon was that it should only be as an experiment. Were they to throw away their money on a mere experiment which

had been well considered by the Association previously? And not one single thing that he knew of had been put forward to the advantage of this Association, only three of the Sub-committee voted for the resolution and two against it, therefore he strongly opposed the adoption of the report. If there was anything else that had occurred at the meeting which they had not already heard he would wish the members of the Committee present to speak.

Mr. HEDLEY: To what money does he refer?

Mr. MCKENNY: To the subscription to the National Association.

Mr. WATSON (Hon. Sec.): He is referring to the Sub-committee which met to consider the amalgamation.

Mr. HEDLEY: And they recommend that the amalgamation should proceed, so far as they are concerned?

Mr. MCKENNY: Yes.

Mr. HEDLEY: That is all right.

The CHAIRMAN said that the Sub-committee's report was included in the report of the Council. They should have been separate.

Mr. HEDLEY: The best thing is to consider the report of the Council first.

The CHAIRMAN then put the adoption of the Council's report to the meeting, and it was passed.

The report of the meeting of the Sub-committee was again read by the Chairman.

The CHAIRMAN said that Mr. McKenny objected to the adoption of the report because the matter was not thoroughly and completely discussed, and he did not see why the resolution should be adopted, because it was practically an experiment. He did not believe in spending money on an experiment—he thought that epitomised what Mr. McKenny had said.

Mr. MCKENNY: It was not at all fully discussed. It was almost as brief as the report, and the only thing put forward was to approve of it as an experiment. This Association had already considered it at a large meeting, and they would not adopt it, and we would stultify ourselves by now adopting the resolution unless we have some more feasible reason for so doing than an experiment.

Mr. HENRY: Was a caucus meeting held?

Mr. MCKENNY: No.

Mr. WATSON: Is the report accurate?

Mr. MCKENNY: Yes.

Mr. MOFFETT: Is it a question of discussing it to-night?

The CHAIRMAN: No.

Mr. MOFFETT: I move that the report of the Sub-committee as read be adopted. Mr. Williams seconded.

Prof. CRAIG said he would like to suggest that before they adopted the resolution of the Sub-committee it would be as well to have the opinion of the various members of the Association. That could be obtained through the circular calling the next meeting. All that was required to be done was to put down in the circular "Are you in favour of amalgamation?" If they had a majority in favour of amalgamation, they should then amalgamate.

Mr. REAVY asked what was the result of the meeting held in the veterinary college with reference to this.

The CHAIRMAN said the resolution was that the meeting resolved to wait to see what was the suggestion made at the Carnarvon meeting.

Mr. WATSON was of opinion that they had gone too far to absolutely go back as suggested by Prof. Craig. This subject had been discussed for practically the last two years [A Member: Nearly three], and it had gone before several sub-committees, and if they adopted the suggestion of Prof. Craig they would be going over the same ground again. He held that it was not practical.

Mr. MCKENNY said if Prof. Craig would put his suggestion as an amendment he would second it.

Prof. CRAIG declined to do so.

Mr. McKENNY: It is a scandalous shame. This Association has gone to expense and much trouble to forward a magnificent scheme of amalgamation and it has been taken out of our hands, and if it is not carried out will throw back all the Associations for many years. The original scheme—"amalgamation of the Associations"—if carried out would so unite them, in all important matters of interest to the profession, that we no doubt would have derived much benefit therefrom, but by the scheme under consideration only one Association will reap any benefit from it. I hope these remarks will be taken down and printed for circulation, as I feel sure time will reveal the accuracy of my prediction.

Mr. REAVY: Could Prof. Craig propose an amendment as being a member of the Sub-committee?

The CHAIRMAN: Yes; it would not debar him. I think the best thing would be to either adopt the report or refer it back.

Prof. CRAIG said he would not propose what he said as an amendment, but only as an addition to the report—nothing more, because he was entirely in favour personally of trying it as an experiment—as Mr. McKenny had spoken of it. But although that was his opinion, he was not going to say it was the opinion of all the members of the Association, and that was the only reason for his suggestion.

Mr. DOYLE said that at the meeting there were three in favour and two against it, and he thought it would be well to take a vote of all the members of the Association.

Mr. WATSON said that the question had been circulated amongst the members for the last three years, Meetings had been summoned, and it had been put on the agenda for discussion, and if the members thought so little about the question they would not turn up at the meetings, they should not go any further. It was high time they settled it.

Mr. DOYLE: We should then want another Sub-committee.

Mr. HEDLEY: We should want sub-committees to consider the rules, to elect some one to take the matter in hand, another to put it in form for the members to understand, and subsequently a meeting for something else. It is only playing at time-wasting.

Mr. HENEY: What is the feeling of the Northern and Central Societies with regard to this? Had they passed any resolution?

Mr. McKENNY said he could not see how Mr. Hedley's remarks applied. It appeared that some people wanted to rush into this thing now. A very magnificent suggestion came from Prof. Craig—an honest and straightforward suggestion to ask every member to vote. That was a straightforward thing, and it would be definite and there would be no more meetings or discussions required or anything else. Whatever way the voting went would be final. It was ridiculous to rush into this thing now.

Mr. DOYLE proposed the following amendment:—"That the report be sent back to Sub-committee and that a referendum be taken of the members of the Veterinary Medical Association."

Mr. McKENNY seconded.

On the amendment being put, only the proposer and seconder voted for it.

The report of the Sub-committee was then put and carried, the report being adopted.

TREASURER'S STATEMENT.

J. F. CRAIG in account with the V.M.A., Ireland.

Dr.		£	s.	d.
To Balance from 1910			15	15 11
Subscriptions 1911	£32 13 6			
Arrears paid	11 0 6			
Paid in advance	2 2 0			
	<hr/>		45	16 0

Interest on Investments	Forward	£61	11	11
		4	4	4
		£65	16	3

Invested in Consols	£80	2	7
India 3½	25	1	3
Bursary Account	40	0	0
	£145	3	10

Cr.	£.	s.	d.
By Transfer to Bursary Account	1	2	2
Reporting Meetings	8	8	0
Audit Fee	1	1	0
Secretarial Expenses, Assistant	10	0	0
Printing and Circulating Proceedings	6	0	0
Postage, &c., Secretary and Treasurer	4	12	3
Stationery and General Printing	4	7	6
Hire of Room	0	7	6
Delegate to R.I.P.H., Dublin	1	1	0
" to R.S.L., Belfast	1	1	0
Balance	27	15	10
	£65	16	3

Bursary Account to January, 1912.

To Balance from last Account	44	11	8
Proportion of Interest, General Account	1	2	2
	£45	13	10

By Engraving Medal			0	2	6
Balance	Invested	£40	0	0	
	Included in Bank	5	11	4	
			45	11	4
			£45	13	10

Examined and found correct.

(Signed) JOSEPH H. WOODWORTH, F.C.A.

25th January, 1912.

Prof. CRAIG, Honorary Treasurer said he was sorry that he was unable to have the accounts audited in time to have copies circulated to the members before the meeting. The following, however, was the state of affairs. The balance from 1910, was £15 15 11. The balance for this year was £27 15 10, so that they had been able to pay their way this year and have a little to the good at the end. In referring to the subscriptions, he had to note that for the current year only about 65 members paid current subscriptions out of a membership of something like 130. As treasurer he would like every member to pay his subscription at the beginning of the year, so as to have no further trouble with it. He thought all the expenses were inserted in the balance sheet. They had invested a certain amount of money, amounting to about £145. That amount indicated, he believed, the sum that was paid for the Consols, India 3½ per cents., but he did not think the same sum could be obtained for them to-day. The annual interest from that sum amounted to £4 4s. 4d.

Mr. REAVY proposed the adoption of the Treasurer's report. Mr. CHAMBERS seconded.

Mr. HEDLEY said the books of the Association showed a membership of 130 or 135, but I am afraid this is not the actual state of affairs. The point we want to ascertain is what is the membership of good sound subscription payers, or is the list filled with laggards who for a length of time have not paid their honourable dues. How many should have their names deleted from the list? If the Association had only 60 out of 90 paying members, it would be in a better position than it appears to be at present. The next point of interest is that the Treasurer told them they had to their account the sum

of about £140. He would remind the Treasurer that the amount mentioned was of long standing, and nothing had been added to the account for two years past. Notwithstanding such fact there was only £27 shown in the balance sheet. That was not as good as they would like to see it. He did not remember any time when the Association was so badly off. It had generally been able to invest at least £20. At any rate it should be practicable to do more than live on the income.

The CHAIRMAN: On the year's working we are £10 to the better, less one penny.

Mr. HEDLEY: What was the year before?

The CHAIRMAN: £15 15s. 11d.

Mr. HEDLEY said that they did not gain by keeping their money in current account. Such is like tying their talent up in a napkin; the money should be put to interest. What had they on the last account for interest?

Prof. CRAIG: £4 4s. 4d.

Mr. HEDLEY said that was not for leaving the money in the bank, but produced by investment. He suggested that the accounts should be received.

Mr. MAHONY seconded this, and remarked that the members who had not paid their subscriptions for two years should be struck off. Those members gained some advantage from the Association, and paid nothing.

The PRESIDENT suggested that the meeting receive and adopt the Treasurer's report, and refer to the Council the question of investing further monies and also the matter of the subscriptions in arrear.—Agreed.

MR. EMERY'S RESIGNATION.

The following letter was received from Mr. F. W. Emery.

My dear Mr. Watson—Your favour of the 5th ult. came to hand at a time when I was unable to give it proper attention, I trust you will excuse my delay in replying.

I regret the circumstances which have been the cause of my tendering my resignation, but I am unable to alter my decision.

Thanking you for your very courteous letter.

Yours faithfully, F. W. EMERY.

Belfast, 27th January, 1912.

INSTITUTE OF PUBLIC HEALTH. REPORT OF DELEGATE.

Mr. HENRY apologised for not at the last meeting handing in his report with reference to the meeting of the Royal Institute of Public Health, but it was owing to circumstances arising over which he had not control. He then read his report.

Mr. President and Gentlemen—In accordance with the wish expressed by your Council, I had the pleasure of attending as your delegate the Congress of the Royal Institute of Public Health held in the University of Dublin, by kind permission of the Senate, from 15th to 21st August, 1911, and I beg to submit this my Report.

The Congress opened at noon on Tuesday, the 15th, when a very large number of delegates and others interested met to hear the Presidential Address delivered by Her Excellency the Countess of Aberdeen, who needs no words of mine to commend her to you as an ardent supporter of every movement calculated to be of use in the amelioration of those conditions in life which the aims of the Congress seek to remedy. Her Excellency, in a very able address, sought with cogent arguments to impress upon her audience the vital necessity of enlisting the assistance of the female sex in the indoctrination of household sciences, as also that of public health.

Subsequently, a large number of those present submitted themselves to be photographed in the College Quadrangle. Her Excellency, accompanied by the Lord Lieutenant and the Right Honourable the Lord Mayor who attended in state, accompanied by many Civic dignitaries, being in the centre of the group.

Immediately afterwards the members broke up to their respective sections, and as the section in which we as veterinarians are primarily interested, I will proceed to refer to the Presidential address which was given by Principal Mettam, B.Sc., M.R.C.V.S. As we can easily expect, it was an interesting and able one, dealing with the relationship of infection between man and the lower animal creation. The President opened with a short yet cogent address welcoming the delegates and visitors to the Section, in the course of which he briefly enumerated the various papers to be submitted for their delectation. A vote of thanks was duly carried amidst applause.

On Wednesday, Professor McWeeney, who needs no words of mine to introduce him—being such a well-known and able scientist—delivered his lecture entitled "The relation of Bacilli of the Typho-coli group to Meat Poisoning and Para-typhoid." He referred to poisonous elements present in food that was not apparently objectionable, and instanced the very lamentable outbreaks of poisoning which took place in Limerick a short time back, due to the Bacillus of Gaertner, and proved his point by experiments which he made on some fresh beef. The lecturer strongly advocated the slaughter of animals for human food in public abattoirs where efficient inspection can be carried out, and where a practical laboratory for the examination of the meat could have place. The lecturer referred to the ease with which this might be secured, and in passing paid a tribute of high praise to the standard of knowledge exhibited by the students of Pathology and Bacteriology in the Royal Veterinary College of Ireland. He strongly advised that in any laboratory, besides apparatus, various sera should be stocked, especially that of paratyphoid and Gaertner bacillus.

One point which the lecturer referred to deserves a special note—that the typho-coli group is only found in wasted beasts, sold for a small price, therefore no compensation should be allowed. He further instanced where in the Limerick case some of the diseased meat had been supplied by a contractor at 5d. per lb.

This lecture attracted considerable interest, and many speakers expressed their appreciation of the practical nature of the paper. Amongst those who added remarks to an interesting discussion were Sir C. Nixon, Profs. Craig and O'Connor, Mr. Begg from Scotland, Mr. C. Coony, President of the Victuallers' Association, and Mr. Joseph Hatch, President of the Cowkeepers' Association. Both these latter gentlemen showing a deep interest in the section, both by regular attendance and taking a practical interest in the discussion of the various papers, and who with Mr. F. Mason strongly advocated compensation to owners of animals found tubercular on slaughter, as they advocated that even with the best judgment, cattle might prove to be less valuable after post-mortem lesions had been revealed.

In this connection I may note that a resolution proposed by Mr. Coony, seconded by Mr. Mason was duly passed *nem. con.*

"That the Government be called upon to pay from the Imperial Exchequer compensation for all animals purchased in open market and presenting a healthy appearance, which on inspection after slaughter were found to be tuberculous."

This resolution is very good in its way, but unless some strong agitation is made in its favour I am fearful of profitable results.

Later in the day Mr. Brennan Devine, F.R.C.V.S., of Birmingham, read a paper entitled "Contamination of Milk occurring between the Cow and the Consumer." The paper elicited a good discussion, and amongst others who spoke, Mr. Joseph Hatch strongly referred to the great expense to which owners of cows were forced by having the tuberculin test applied, and that the public did not fully appreciate it, nor did medical men in authority enforce a recognition of the attempts being

made by up-to-date milk purveyors to secure a healthy milk supply.

Professor Sir Chas. Cameron added to the papers by reading one on "Suggested Amendments in the Laws and Regulations dealing with Milk"—in which he advocated compensation to owners of cows slaughtered in the public interest.

On Thursday, Professor Craig, Royal Veterinary College of Ireland, delivered an excellent paper on "Diseases communicable from Animals to Man." He particularly dealt with the transmissibility of tuberculosis through the medium of pigeons. He also dealt with the disease in dogs and cats due to human infection.

In connection with this paper the section was favoured by a very rousing speech from the Rt. Hon. W. Russell, M.P., Vice-President Board of Agriculture, in which he very strongly referred to the great necessity of stimulating research work.

On Friday we had two practical veterinarians in Mr. Cargill Patrick and Mr. P. J. Howard giving us papers on "Keeping of Animals and their relation to Public Health"—and the latter "Meat Inspection in rural Ireland—what it is and what it ought to be." Mr. Howard was very strong in showing that meat inspection in rural Ireland was certainly what it ought not to be, and detailed many glaring fractures of the sanitary laws, to say nothing of meat sold as sound from carcasses that were largely diseased.

The social side of the Congress was most agreeable, and comprised visits to various places of interest in and around the metropolis, a pleasure indeed I was informed that was not fully availed of; but the garden parties given by Their Excellencies at the Vice-Regal Lodge, as also that of Mr. Stanley Cochrane were largely attended and freely enjoyed by a large gathering, and by none more than by the members of this section. I desire very briefly to add that my opinion of the Congress, and particularly of our veterinary section, is that it proved a distinct success. The proceedings were very freely reported in the local press, and I am certain that the entire Congress will be noted one of the most successful that has ever been held.

I would, however, be entirely lacking in the discharge of my duty to this Association did I not draw its attention to the grave want of interest displayed by its members in the Congress.

Several Dublin veterinarians and a few from the country were there, but there was a very evident paucity of attendance. This is greatly to be deplored, for unless we as a body show ourselves interested in our own section it is small blame to others outside our profession if they consider us unworthy of any honour to be derived from such Congresses.

FRED. A. HENEY.

The CHAIRMAN, on behalf of the Association, tendered to Mr. Heney his thanks for the report that he had put in, and for the trouble that he had been put to. They were very grateful for all that he had told them. (Hear, hear).

ELECTION OF OFFICERS.

The CHAIRMAN then announced the result of the ballot for the officers, and the following were declared elected:—

President.—Mr. P. J. Howard.

Vice-presidents.—Mr. W. Chambers and Mr. J. B. Dunlop.

Hon. Treasurer.—Prof. Craig.

Hon. Secretary.—Prof. O'Connor.

Council.—Messrs. J. A. Thompson, J. F. Healy, Prof. O'Connor, B. P. J. Mahony, F. A. Heney, P. D. Reavy, and L. M. Magee.

THE R.C.V.S. VISIT.

The CHAIRMAN said that the Royal College of Veterinary Surgeons had decided to hold the annual meeting

of the profession in Dublin this ensuing year. The annual meeting was to be held, according to the by-laws, on the first Wednesday in June, and he had asked that the meeting should be held in Dublin. This had been complied with, and he took it as a compliment to the profession in Ireland that the meeting should be held in Dublin, and he would like them to rally round the Royal College of Veterinary Surgeons, and its present President, to make the meeting in Dublin a success. He had approached the Royal Dublin Society, who had kindly granted the use of the theatre for the annual meeting. In the evening he would like to hold a dinner. For a few years past—up to a few years ago—it was customary in London to hold a dinner which was recognised as being the professional dinner, and a re-union. As the annual meeting was to be held in Dublin for the first time in the existence of the college, they should have a dinner worthy of the college and the profession, and he intended to circularise the members in Ireland to ask them to come to it. They ought to do their level best to make the dinner a success. (Hear, hear).

VOTE OF THANKS.

Mr. McKENNY proposed a vote of thanks to the retiring President, and said they had to thank him for the able and kind manner in which he had treated them all.

Mr. J. HOLLAND seconded, and the motion was passed.

Prof. METTAM briefly acknowledged the compliment.

Mr. HEDLEY proposed a vote of thanks to the various officers connected with the Association, for the manner in which they had done their duty during the past year. Any criticisms put forward had been in good spirit, and had been received as such. There had been a general willingness to do everything for the good of the Association, and the profession generally in Ireland and the United Kingdom.

Mr. McKENNY seconded, and said that the Secretary (Mr. Watson) who had been in office for the last two years, had worked hard, and deserved their sincere thanks.

The motion was carried with applause.

Mr. WATSON, in replying, said that he was glad to know that if he had pleased no one else, he had pleased Mr. McKenny, and having pleased him, it proved that he had pleased everyone else. (Laughter.) It was all very well in proposing votes of thanks to office bearers for the duties they performed, but there was a great deal due to the officers, and the members did not give the assistance and co-operation to the officers they deserved, and on behalf of the new Secretary he asked the gentlemen present to assist him in his important duties. For instance, there was the point of sending out the various remarks for editing, and it was of the greatest importance that they should be returned quickly. During his term of office he had complaints to make against leading members of the Association for delays in sending back their remarks, and the report was delayed in publication. The members should assist the Secretary in every possible way. He had a lot to do, and these delays upset him tremendously.

The annual dinner was subsequently held at the Dolphin Hotel.

CONNAUGHT VETERINARY ASSOCIATION.

A general meeting was held on Feb. 1st at Claremorris; the following members were present: Messrs. D. Hamilton, Ballina (Pres.), T. J. Flynn, Ballyhaunis; J. J. O'Brien, Belmullet; P. McDonnell, Westport; James Dodd, Swinford; J. C. Doran, Castlereagh; P. F. MacCormack, Castlebar; A. F. O'Dea, Tuam; and A. J. Moffett (Hon. Sec.), Galway.

Letters and telegrams regretting inability to attend were received from Messrs. J. J. Vahey, E. A. Ryan, J. J. McCormack, P. D. English, and Cantrell Tracy.

The minutes of the last meeting were read by the Secretary, passed, and signed by the President.

PRESIDENTIAL ADDRESS.

DAVID HAMILTON, M.R.C.V.S., Ballina.

Gentlemen,—I congratulate you upon the successful start that has been made by this Connaught Veterinary Association, and I thank you for the honour you have conferred upon me in electing me President for its first year, but I honestly wish that the mantle had fallen upon abler shoulders. I shall, however, do my best to further the interests of our profession, having special regard to those identified with this remote part of the kingdom. I presume that you expect me to comply with the time-honoured custom of giving an address, and I intend to comply, in so far as a few remarks relative to our position is concerned.

It may be well to refer to the circumstances that induced us to form this Society. We are quite aware that unity is strength, and we have no idea of setting up an opposition Society, on the contrary, some of us are members of at least two of the three sister societies existing in Ireland at present, and I hope we may continue to remain as such for some time at least. It has been found impossible for us to attend these meetings, the distance, loss of time, and expense almost—might I say altogether—prohibit us. Situated as we are on the extreme west of the country, some of us reside 200 miles from the city of Dublin; thus our position on the map alone requires consideration, and at least in the case of our habitual absence could not receive that attention it deserves at our metropolitan meetings.

Now instead of weakening the existing societies, we hope to strengthen them, and by united action to bring matters of public importance before the notice of the public, and of public boards, in such a way that grievances may be removed, administration of orders perfected, and conditions improved for the good of the public, and I hope, with advantage to ourselves. Perhaps these reasons may be sufficient explanation for the need of this Society, and in due time I expect we will become affiliated to the National Veterinary Association, and I trust that instead of being looked upon as opponents we will be found ready helpmates in furthering the interests of the profession to which we have the honour to belong.

As you are aware, the veterinary profession, qualified by scientific proficiency, is now called upon to take a wide grasp of questions affecting public health. As the public health of man cannot be dissociated from the public health of animals, it is obvious that we are called upon to play an important part in the welfare and health of both, as well as in the wealth of the nation. It is admitted on all sides that there are diseases of animals communicable to man, and it is hard to conceive how this important matter has been, and is being, neglected. Politicians seem to ignore the fact that wealth without health is more of a curse than a blessing; they flutter the tinsel, the public are allured by the dreams of avarice, and the reality is neglected. It is, however, beginning to dawn upon the public that there is danger to be apprehended in relation to animals and animal foods. Rabies was a palpable danger, it was acute and fatal; they realised the danger, and I believe were thankful when it was eradicated, but they are slow to get up in arms against other diseases which, in many instances, are insidious but none the less fatal, and until they are awakened to a sense of their danger, and demand protection, I am afraid the same unpractical methods of dealing with such diseases will continue.

The Royal Commission on Tuberculosis settled the

question of the transmissibility of the Bovine bacillus to man from the ingestion of tuberculous infective material, and there are other bacilli besides that of Tubercle injurious to man; some give rise to toxins, and are accountable for many cases of serious illness. Now when this is known one would expect such steps to be taken as would protect the consumer. We are told that this has been done! A Dairies and Cowsheds Order has been issued aiming at the supply of pure, clean, wholesome milk. This order, like most others, is administered by the Local Authorities, and some of them have actually refused to put it into operation. Some have appointed a relieving officer or unskilled laymen to carry out the provisions of this order, and they have been sanctioned by the Local Government Board. Such administration is an impudent fraud imposed upon a confiding public, who are made believe that they are being protected in their milk supply.

It is common knowledge that nothing is more liable than milk to take up infection, both within the animal body and outside of it, and being the product of the cow, to be wholesome, must be the secretion of a healthy animal; and for the animal to maintain health, she must be properly fed and housed; and for the milk to leave the cow-house clean and pure the house must be clean, the cow must be clean, the attendants clean, and the surroundings clean and free from contaminating materials.

All of those are important, but who is likely to know whether the cow is healthy or unhealthy? The relieving officer, the local butcher, or the veterinary surgeon? Who but an expert could possibly diagnose conditions which produce toxins in the animal body that are conveyed to the milk? This employing of unskilled labour is an insult to the intelligence of the public, and a gross insult to our profession. Why name us in the order if anyone can perform the duties? Has Parliament granted us a charter to enable us to compete with the relieving officer or the local handyman?

This is a point that should be settled at once and for all. Either make it imperative that a veterinary surgeon should be appointed in every case, or erase us from the Order altogether; then if we wished we could compete with the relieving officer, if not on merit, on whatever local influence we may possess. Our position with the public would be clear, we could not be responsible where we had no responsibility, and they would more readily see that the health of the nation was of so little importance that it was not worth protecting. That the curing of disease in man is held to be more important than its prevention.

The ingestion of infected meat cannot be over-estimated, and the first step to be taken is to have public abattoirs; so long as animals are slaughtered for human consumption in any hole or corner, so long will unwholesome food escape the vigilance of inspection. It is simply scandalous the way meat is treated in many so-called private slaughterhouses; neither the houses nor the persons engaged in the work are clean, and there does not appear to be any control. Some diseased, and much unwholesome food is undoubtedly consumed. Considerable attention is now being paid to the meat supply of cities and large towns, and are not the smaller towns and places equally important? The individual is part of the community, the wealth of the nation is the labour of its population, and the labour is dependent upon the health of the people.

The eradication of contagious diseases of animals, the protection of their health, and the improvement of the breeds are matters which might very well concern us, closely associated as we are with an agricultural community. Enormous sums of money have been lost in the past by the ravages of contagious diseases, and too much attention cannot be paid to their prevention, control and eradication. Perhaps some might be added to the list of

diseases already scheduled, such as Tuberculosis, Swine erysipelas, and Blackleg. At present the contagious diseases are worked by the local authorities under the control of the D.A.T.I., but I think it would be far better if they were under the direct control of the veterinary branch of the department, having one central and governing body would insure a more uniform service and action. Except for the levying of taxes, I see no purpose in having local authorities concerned in matters of which they are indifferent and quite ignorant. Optional discretion should not be given to local authorities to use their will or judgment in applying orders for the control of those diseases; a uniform system is essential to insure benefit, and most certainly none but qualified inspectors should be entrusted with this important work.

The agriculturists in this country have reason to be thankful that Rinderpest, Pleuro-pneumonia, Rabies, and Glanders and Farcy have been eradicated from our island, and Foot-and-mouth disease prevented from entering its shores during the past 30 years. This is a very good record, and there is no reason why more might not be done. I do not want it to go abroad that our country is teeming with tuberculosis, I do not believe that it is, but I know that the disease exists, and we all know that it will not die out of itself, but that it will tend to spread and increase where animals are allowed to mix freely, the diseased with the healthy. This being an undoubted fact, the sooner its control and eradication is tackled the better. The danger of contact will apply especially to our part of the country as the agricultural population increases, and the herding and housing of animals consequently become more confined.

I am not an advocate for general slaughter, but I think clinically affected animals should be slaughtered and some compensation given. Milch cows affected should be indelibly branded if they are not slaughtered; all animals in an affected herd should be tested, and reactors separated and put under suitable hygienic conditions. The State would ultimately benefit from a healthy animal kingdom. In the meantime, apart from the losses which occur from death, the producer and the consumer must both be paying for the butchers' insurance against loss from condemned carcasses. I may state here my opinion that the State should prepare and supply tuberculin or authorise the Royal Veterinary College to do so, it would be a guarantee to the V.S., to the owner, and to the buyer of tested animals.

Having glanced at our relationship with public bodies in connection with some of the diseases of public interest, I may mention a subject which affects the farmer more than ourselves. It would be well if the Department which is trying to improve the condition of the farmer would pay more attention to the breeding and rearing of stock, and instruct their lecturers to treat of the animal in health rather than in disease. No one wants disease or illness, but there appears to be a greater desire amongst our farmers for a cure than for a preventative, and their desires are often gratified. If the lecturers confined themselves to the feeding and rearing of young stock they could do useful work, and by teaching the breeding of animals they would confer immense benefit. Our cattle have deteriorated, they are being crossed and re-crossed indiscriminately; it is becoming more difficult every day to get a good milch cow. Many of our cows do not yield 300 gallons of milk per annum, and a cow is considered unprofitable that does not yield 600 gallons with, say, $3\frac{1}{2}\%$ of butter fats. The difference calculated at 6d. per gallon would often pay the rent of the little farm. Here is a source of wealth being lost to the country for the want of attention and education.

I have not said a word about horses, and I must apologise for having said so much about cattle, but my apology is that it points out a field of usefulness, and

with an increased value in our animals will come an increased demand for our services. I hope that the universal breaking up of grazing lands will not tell against the production of that national asset—the Irish Hunter. I fear he cannot be so good if reared on small patches as when roaming over large tracts, and I, for one, hope that the powers that be may see their way to leave suitable ranges in every district for this purpose.

I could have wished to deal in my address with the Veterinary Dispensary Scheme, but I fear that this is a subject that could profitably occupy a special day for itself, and I hope we may be able to arrange for having this important matter discussed on an early date. There are many conditions in the scheme that require adjusting, and we will require to assert our views in a definite manner.

I trust that this brief address may be accepted as an outline or idea of our line of action as regards our relation with public bodies. We believe that we are the only body qualified to deal with the diseases of animals, and we should never rest until duties pertaining to them are vested in members of our profession, or, where it may seem impracticable to have a qualified inspector to do all the duty, a V.S. should have supervision.

I fully expect that you will bring forward subjects of clinical importance at our meetings, and I humbly suggest that notes on cases, and the exhibition of specimens are often more acceptable and profitable than many of the so-called scientific papers we see published from time to time.

I thank you again for the honour you have done me, and I earnestly ask your co-operation in discharging the duties of office, and hope that our labours may bring credit and profit to ourselves, and honour to our profession.

Mr. P. F. MACCORMACK wished to heartily thank the President for his address. He thought the members' ideas had been voiced on the subjects contained in the address. The President had taken a great interest in the Association, and as one who was well known and esteemed in the Province of Connaught, and indeed all over Ireland, they should feel very grateful for that interest. He considered they could not have a better man to lead the Association in its first year of being.

Mr. A. F. O'DEA also thanked the President for his address, and thought it would be a good thing if it were published in the local papers—it would show the general public the veterinary surgeons' view of their relationship to the public and their interest in the public health. He had listened with great pleasure to the address.

Mr. J. C. DORAN, in thanking the President for his able address, supported Mr. O'Dea's suggestion—that it should be sent to the local papers for insertion; it would show the public the interest veterinary surgeons were taking in public health matters, and that they were thoroughly capable of dealing with such questions.

Mr. MOFFETT thanked the President for his sterling address. The President in the beginning of his address had deprecated his ability to guide the affairs of the Association for the coming year, but he considered that before the end of the address he had well proved his ability to undertake the responsibilities. It was a strong address, and showed that the President was determined to do his best for the Association by showing the public the proper relationship of the veterinary surgeon in public health matters. It would show the general public also that they had the interest of the public at heart. He thought they could have no better man at the head of the Association.

Mr. FLYNN: We are all tired now of praising the President.

The PRESIDENT: There seems to be a danger of this meeting becoming a mutual admiration society. (Laughter).

Mr. FLYNN: But still he thanked the President for his able address. The President had been, as long as he knew him, as a father to him, and he knew no one who would take a keener interest in the Association. He also thought the Secretary should be thanked for the trouble he had taken, and was very sorry Mr. Vahey was not here to accord. Indeed, all the younger members of the Association should be thankful to the President, Vice-president (Mr. Vahey), the Secretary, for the trouble they had taken in forming the Association.

The PRESIDENT briefly thanked them all for their kind reception of his address, and said he would do all in his power to make the Association a success.

The SECRETARY also thanked them for their kind remarks, and said the best thanks they could give him would be to come to their meetings and make the Association a success. He, personally, did not grudge any trouble in forwarding the interests of the Association.

DAIRIES AND COWSHEDS ORDER.

Mr. MacCormack and Mr. Flynn brought up the question of the Local Government Board directing the Claremorris District Council to appoint three laymen to the position of inspector, and that there was no question of the appointing of a veterinary surgeon to supervise them.

Mr. MACCORMACK said he spoke to members of the District Council, who said they would be grumbled at by the public for not appointing lowest tender, and that the L.G.B. sanctions the appointment, and does not insist on qualified men being appointed.

The PRESIDENT thought they should put their views before the Milk Supply Committee when it sat in their districts.

LECTURES TO AGRICULTURAL CLASSES ON VETERINARY HYGIENE.

Mr. DORAN said he was appointed by the County

Council at thirty shillings per lecture, and had to go ten miles of a drive. He refused to act at less than two guineas per lecture, and the Secretary of the Agricultural Committee told him that a Department official told him that he could get no veterinary surgeon to take up the lectures except one from the South of Ireland, who would get three guineas per lecture and expenses.

Mr. MACCORMACK said it was a question of principle.

Mr. MOFFETT said he thought no honourable veterinary surgeon from the South of Ireland would come to lecture in face of the resolution passed at last meeting stating they would not take less than two guineas per lecture.

Mr. DODD said it was optional for the County Agricultural Committee to appoint lecturers at all. At first he had refused to take less than two guineas per lecture, but later took thirty shillings rather than let some other lecturer in.

The PRESIDENT: In order not to interfere with the studies of the agricultural students, he thought it would be better to allow members to accept the terms offered for this year.—This was agreed to by all the members present.

AFFILIATION WITH NATIONAL VETERINARY ASSOCIATION.

It was decided that a copy of the rules be sent to each member before the next meeting, when the matter could be discussed.

Rules. The SECRETARY said the Council had gone through them and it was decided to have them printed and circulated among the members.

After a vote of thanks was passed to the President the meeting adjourned.

A. J. MOFFETT, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Feb. 24	29		32				5	5	100	250	6	57	940
Corresponding week in	1911	23	34	47			4	20			19	21	265
	1910		33	34			8	16			21	31	190
	1909						15	30			29	28	397
Total for 8 weeks, 1912	206		228				23	45	1090	2709	113	484	6311
Corresponding period in	1911	178	242	293			39	155			234	273	3070
	1910		230	312			54	169			235	188	1379
	1909						86	219			294	238	1836

* Counties affected, animals attacked: Essex 1, Middlesex 2, Suffolk 1. City of Edinburgh 1.

Board of Agriculture and Fisheries, Feb. 27, 1912.

Outbreaks

IRELAND.	Week ended Feb. 24	...	...	...	...	...	...	3	15	5	22
Corresponding Week in	1911	...	...	...	...	...	...	2	11	...	51
	1910	...	2	2	...	...	...	1	11	...	...
	1909	...	...	...	...	...	...	3	26	...	...
Total for 8 weeks, 1912	...	1	1	...	...	...	...	20	158	21	192
Corresponding period in	1911	...	3	3	...	...	...	21	159	23	459
	1910	...	4	4	...	...	...	17	168	6	215
	1909	...	1	1	...	...	...	21	142	3	12

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 26, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Feb. 23.

REGULAR FORCES. ARMY VETERINARY CORPS.

The following Lieuts. (on probation) are confirmed in their ranks :—

F. J. Sheedy, W. H. Thomas, G. A. Kelly.

Football—Dublin v. London.

The annual Inter-college Match was played in Dublin on Saturday, Feb. 10, the London team left Euston on Friday, accompanied by Professor Wooldridge, and Messrs. Smith, O'Kell, Bailey and Woods, a special saloon being provided. Bridge helped to pass away the time spent on a comfortable train journey, but the sea passage was not so pleasant. A high wind, rough sea and blinding rain made the three-hour passage seem an eternity. The team suffered—the casualties being numerous, and a night's rest in Dublin failed to fill the aching void. There is no doubt that these circumstances interfered with the otherwise promising chances of victory held by the visitors, who have been undefeated during the past two seasons. On Saturday morning a visit was made to the fine college premises, and many acquaintanceships were renewed. After the match the visitors were entertained at the Gresham Hotel. The speeches were enthusiastically received, and toasts were drunk to musical honours. Mr. Dunlop figured amongst the guests of the evening. Professor Mettam occupied the chair. After dinner the company adjourned to the Royal Theatre, where seats had been reserved; an excellent entertainment in the form of a pantomime, bringing to a close an evening acting as a splendid antidote to the experiences of the previous day. On Sunday afternoon the party partook of tea at Bray, followed by a smoking concert, to the programme of which members of both colleges contributed. Amongst the many excellent turns Mr. Clunes' dramatic number, "Kissing Cup's Race"; Mr. O'Neill's (M.R.C.V.S.), "Wreck of the Desperate Cuss"; Mr. O'Leary's "Elephants to ride on," and the songs rendered by Messrs. Clancey, Porter, Hickie, and Preston, were truly representative of the Irish College talent. For the visitors, Messrs. Davies, Gilbert, Smith, Fieldhouse, Herratt, Sheffield and Woods acquitted themselves with distinction. Mr. T. J. Herratt undertook the arduous duties of accompanist, and his fine playing was greatly appreciated. The London team returned on Monday, after a most enjoyable week end. The thanks of both parties are cordially offered to the energetic secretary, Mr. J. J. Mills, in whose capable hands the entertainment arrangements were placed.

Royal Vet. College, Dublin: P. Huston; J. A. Brew, T. V. O'Connor, C. P. Fisher, H. A. Connolly; S. O'Donel, J. Guerin, J. R. Ellison, J. Clune, T. O'Leary, C. Stewart, J. J. Mills, M. H. Reid (Capt), T. Finch, and J. J. Pomeroy.

Royal Vet. College, London: Williams; Huston, Soutar, Leach, Going; DeKoch, Fieldhouse, Sheffield, Lawrence, Viljoen, Melch, Gilbert, Stewart, Daly, and W. Williams.

Referee: Mr. Louis Magee.

London started, and following the usual exchanges play settled at the home 25. The visiting backs tried passing, but they were hustled by the Dublin forwards, who, led by Clune, rushed down to the visitors' line. A free let London back to the centre, where hard forward work was the order for some time. A good run by Huston gave the homesters a footing in their opponents' ground, but the London forwards, led by Gilbert and Stewart, worked back. London continued to have much the better of the exchanges, and a try seemed likely when the ball was sent dead. From the drop out London returned to the pressure, and following some exciting work in the home ground De Koch obtained possession and dropped a smart goal.

Some good work by the home pack gave Dublin a footing in their opponents' territory after this. The defence

prevailed until near the interval, when a loose rush, in which Clune and Reid were prominent, resulted in a try being scored. Guerin converted, and at half-time Dublin led by a point. DUBLIN—1 goal (5 points); LONDON—1 dropped goal (4 points).

On resuming London pressed, but faulty passing by their three-quarters lost ground, and following a good forward rush by Dublin, Clune forced his way over for a try under the bar, Huston adding the points. The exchanges continued to favour Dublin, and the visitors had to touch down. An improvement in the visitors' position was brought about by their forwards, who reached the home 25. Here Souter got the ball, and running through the home backs scored a clever try which was not converted. Some clever kicking by Williams prevented Dublin from increasing their lead a minute later, and De Koch getting in a fine kick, eased the pressure. However, Dublin returned, and a sharp attack ended in Brew scoring an unconverted try. Once more Dublin attacked, and the London full back was repeatedly called upon to save, which he did in good style. O'Connor made great efforts to score for the visitors, but the home defence prevailed. Result: Dublin 2 goals, 1 try (13 pts.); London, 1 dropped goal, 1 try (7 pts.)

THE PROTECTION OF ANIMALS ACT—A QUERY.

Sir,

In your current editorial remarks upon that clause of the new Act which renders it highly penal to "subject any animal to any operation which is performed without due care and humanity," I see no reference to two points which have occurred to me. The first concerns the word "care." Would not a *veterinary surgeon* who was, or was thought to be, liable to an action for negligence in the performance of an operation, be also exposed to a prosecution under this section of the Act? I think he would be, but I will not dwell upon this first and minor point. The second is much more important. Would not the words "due humanity" be held to include the use of anaesthetics for all severe and painful operations? In other words, is not a veterinary surgeon performing such operations without anaesthesia now liable to prosecution?

Personally, I think that most magistrates would hold the word "humanity" to include anaesthesia. I know what I should hold, if I were a magistrate and it were proved to me that a veterinary surgeon had performed, say plantar neurectomy on both fore limbs of a horse, without anaesthesia. The same might be said more or less forcibly of many other operations, such as those for quittor and poll-eil, firing, etc. But the most serious application of the clause appears to be castration and spaying.

My interpretation of the Act would really illegalise the "standing operation." That might not be a bad thing, though I know that some qualified men say they prefer it to all other methods. But what is to be said of the bearing of the clause upon the castration of calves, lambs, and pigs, and the spaying of sows? These small animals could not be chloroformed under the fees generally paid for their castration. But does not the Act enjoin that they shall be?

Of course, a great deal depends upon this question—how far do those chiefly responsible for initiating prosecutions under the Act intend to enforce its provisions? I do not suppose that the police will propose to enforce universal chloroforming for castration; but what about the R.S.P.C.A.? I think I am right in saying that, many years ago, the R.S.P.C.A. attempted to stop sow-spaying altogether, and failed. What use are they likely to make of these new powers?

I believe that anglers are now holding meetings and consulting lawyers to ascertain the bearing of this new Act upon their sport. Should not veterinary surgeons do the same in a matter affecting the everyday work of a good many of them? And should they not also communicate with agricultural bodies?—for, if the operator is liable under the Act, so is the owner who merely "permits" the operation. If the clause really means what I think it does, we ought to lose no time in finding out whether it is intended to enforce it to the full.—Yours faithfully,

"GARDEN PRACTITIONER."

Several communications are unavoidably held over.

Veterinary Societies—Addresses (continued)**ASSOCIATION OF VETERINARY OFFICERS OF HEALTH**

Pres: Mr. J. G. Reynard, M.R.C.V.S., Perth
Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S.,
 Moore Street, Abattoir, Glasgow

BORDER COUNTIES V.M.S.

Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton
Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S.,
 Dalegarth, Windermere
Meetings, Second Friday of Feb., June, and October

BRITISH COLUMBIA V.M.A.

Pres: Dr. Gibbons, M.R.C.V.S., Vancouver,
Hon. Pres: Dr. Hamilton, M.R.C.V.S., Victoria.
Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

CAPE OF GOOD HOPE V.M.S.

Pres. Mr. J. D. Borthwick, M.R.C.V.S., Cape Town
Hon. Sec. & Treas. Mr. R. W. Paine, F.R.C.V.S.

CENTRAL V.S.

Pres. Mr. R. J. Foreman, M.R.C.V.S., High Cross, Tottenham
Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S.,
 122 St. George's Avenue, Tufnell Park, N.
Meetings, First Thursday in each month, except August
 and September, 10 Red Lion Square, Holborn, at 7 p.m.

CENTRAL CANADA V.A.

Hon. Sec: Mr. A. E. James, Ottawa

CENTRAL V.A. OF IRELAND.

Pres: Mr. J. F. Healey, M.R.C.V.S., Middleton
Hon. Sec. Mr. E. C. Winter, F.R.C.V.S., Queen-st., Limerick
Treas: Mr. P. J. Howard, M.R.C.V.S., Ennis

CONNAUGHT V.M.A.

Pres. Mr. D. Hamilton, M.R.C.V.S., Ballina
Hon. Sec. & Treas. Mr. A. J. Moffett, M.R.C.V.S., Galway

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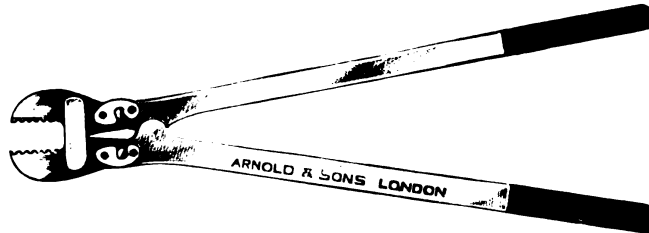
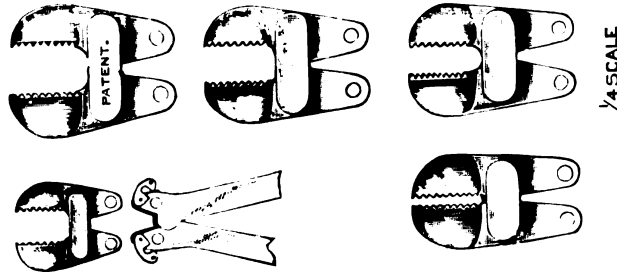
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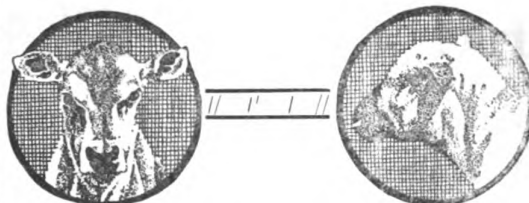
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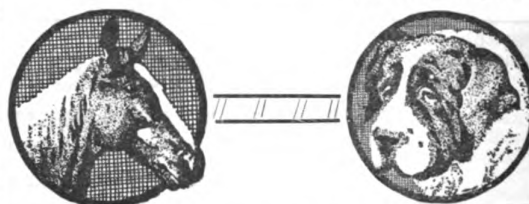
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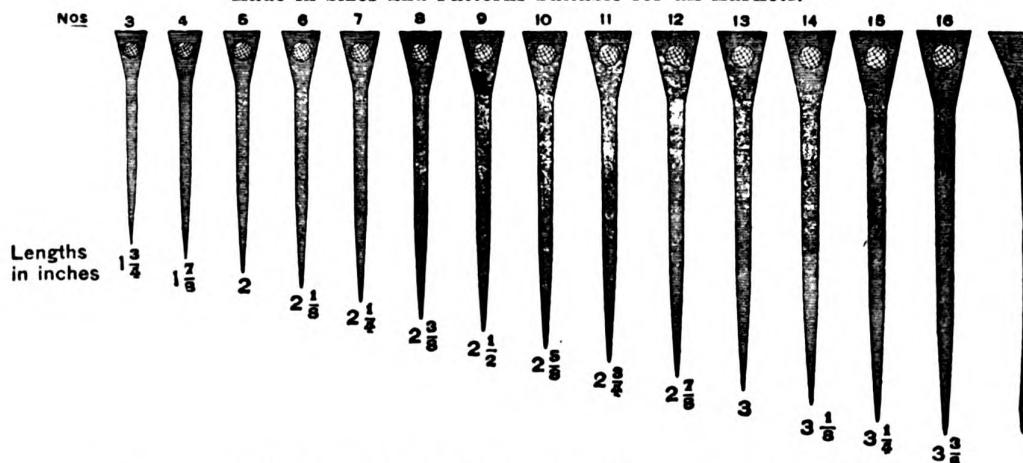
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MARCH 9, 1912.

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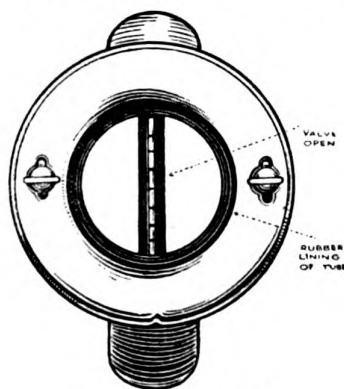
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A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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DIAGNOSTIC METHODS.

Veterinary Surgeons collectively have shown no great readiness to adopt many physical and chemical aids to diagnosis which are in common use among medical men. Ophthalmoscopy, which many of our members have never once practised, might be cited as an instance. A better one, because much wider and more general in its application, is auscultation and percussion. Many veterinary surgeons auscultate with the unaided ear; and few use instruments for percussion—though in the latter connection it must fairly be said that some of those who have specially studied the subject deliberately prefer digital to instrumental percussion. But, speaking generally, it must be admitted that, except with regard to auscultation of the heart, our members do not pay sufficient attention to auscultation and percussion. Anatomical factors will always limit their value to some extent in veterinary practice; but nevertheless we have not yet fully proved their utility.

Urine testing, again, which is a routine procedure amongst medical men, is practically unheard of in everyday veterinary work. The obvious excuse for this—the difficulty in collecting urine—is by no means an invariably sufficient one. There are many cases in practice in which urine testing is not feasible; but it might be resorted to much more often than it is. In veterinary infirmaries especially there are not a few opportunities; and it may be added that infirmary patients are now chiefly canine, and it is in the case of old dogs that urine testing, if generally adopted, would probably be of most value. Urinology never has received the attention it deserves from veterinary surgeons. A few men in the schools have worked upon it; but it has been practically ignored by the great majority of clinicians. Yet it is one of the subjects which an ordinary clinician might very often work upon with good results.

Considering how speedily we recognised the value of such revolutions in diagnosis as mallein and tuberculin, it seems strange that we should be inclined to disregard these other methods which have long been everyday ones amongst medical men. Should we not do well to consider the adaptability of such procedures to our work. Many of them would require some modification;

most would prove of more value than we now suppose. Even cystoscopy, a novel and difficult diagnostic procedure, has been successfully practised upon some animals. Yet there are not a few veterinary surgeons who never use either stethoscope or ophthalmoscope, and never dream of testing the urine.

EQUINE HAY FEVER.

Last summer I attended several horses which appeared to be suffering from a rather uncommon outbreak, although in previous dry seasons I have occasionally treated a few odd cases of a somewhat similar nature.

They did not suffer quite so acutely as those described a few weeks ago in *The Record* by Walther, of Leipzig, but otherwise they were in much the same state. The deep red and swollen condition of the conjunctivae, the slimy and watery discharge from the eyes and thin mucus from the nostrils were all present, as also the general dullness. The cough was not extremely violent in my patients, but I never saw any of them at work or undergoing any exertion, otherwise it might have proved more distressing. The temperature was never more than 103, generally under, and the appetite and circulatory system were only slightly impaired.

They had all been turned out night and day in the neighbourhood of hay and clover fields, and when stabled made a rapid recovery, as a rule in less than a week. A few of them had been turned directly on a portion of the mowing grass, on account of the bareness of the pastures.

Many of the said cases had a great resemblance to Pink-eye—one reason why they received extra observation, especially some which had been standing in a day or two and had consequently filled in the legs, but I had plenty of proof that there was nothing whatever infectious in connection with the lesions.

Dust from motor-cars, smells from sewage and other nuisances were blamed by owners for the mischief, and where nothing of the sort was accessible the changes of temperature—very hot days and cold nights, were thought to have had a good deal of influence, but I strongly believed, and am now more convinced since reading the interesting translation referred to, that the irritation from pollen was the principal cause of the trouble.

A. B. FORSYTH.

ABSTRACTS FROM FOREIGN JOURNALS.

THE TRANSMISSION OF HUMAN TUBERCULOSIS TO CATTLE.

Since the year 1903, Prof. Eber, of the Veterinary Institute of Leipzig, has carried out several series of experiments bearing upon the question of the unity of species of the tubercle bacillus. The results of the first three series, which were published from 1905 to 1908, showed that the ox may be infected by human tuberculous products derived even from adults, and that this may happen, not only after an intermediate passage through the guinea-pig, but even by the direct inoculation of pure cultures.

Eber has recently published the results of the fourth series of experiments. The infective material which was utilised came from fifteen cases of human tuberculosis, of which eight were cases of surgical tuberculosis, and seven of pulmonary tuberculosis.

The inoculations were carried out upon 54 calves of from three to four months old (not reacting to the tuberculin test), 236 rabbits, and 360 guinea-pigs.

Eber succeeded in transforming bacilli of the human type into those of the bovine type; but he found that the transformation takes place gradually, and is only complete after repeated passages through the ox.

He also found that passage through the guinea-pig facilitates the adaptation of the human bacilli to the organism of the ox. These results distinctly support the view of the unity of species of human and bovine tubercle bacilli, and confirm the findings of the French School (Chauveau, Nocard, Arloing, Cadiot, Gilbert, Rayer, etc.—(*La Semaine Vétérinaire*).

THE PASSAGE OF TUBERCLE BACILLI THROUGH THE INTACT SKIN.

Konigsfeld (*Zentralbl. f. Bakteriologie*), discusses this question. Animal experiments have shown that tubercle bacilli are able to traverse the uninjured skin. They penetrate by way of the hair follicles and lymphatic clefts, and $7\frac{1}{2}$ hours later they are in the subcutaneous cellular tissue, where they are to be found even 24 hours after the inoculation. After the expiration of (at the longest) four days, they can be demonstrated in the regional lymphatic glands. From these they pass to the internal organs by the lymph or blood stream.

The cutaneous affection fails in the case of bacilli of low virulence, or when only a few bacilli are concerned. No distinction seems to exist between the infection with human tubercle bacilli, and that with perlsucht bacilli. The skin itself seems to possess a great resistance against tuberculous infection.—(*Berliner Tier. Woch.*)

[All this suggests that internal tuberculosis may

be due to cutaneous infection, if not often, at least less rarely than we have supposed.—*Transl.*]

AN INFECTIOUS DISEASE OF CANARIES CAUSED BY BACTERIA OF THE PARA-TYPHUS GROUP.

Willy Pfeiler reports that, some years ago, he observed a disease in a stock of very well-bred canaries, the cause of which was ascertained to be a bacterium of the para-typhus group.

The disease was extremely infectious, and considerably over a hundred birds succumbed to it. During life, the affected birds showed the depression customarily seen in sick canaries; but the most prominent symptom of illness was a profuse diarrhoea.

Post-mortem, all the birds showed a catarrhal or hæmorrhagic inflammation of the intestinal mucous membrane. Most of them showed, in addition, a fibrinous or sero-fibrinous pleurisy and peritonitis, and hæmorrhages under the epicardium and endocardium. Most birds also showed a striking hyperplasia of the spleen.

Bacteria were found in the blood of the heart and in the organs, and these, when stained by the aniline dyes, presented an extraordinary resemblance to the bacteria of fowl cholera. The organisms grew easily and luxuriantly on the ordinary culture media. Smears from pure cultures showed ovoid bacteria and with them some of somewhat longer appearance, which also had an inclination to bipolar staining. The bacteria were Gram-negative; and, when examined in hanging drop preparations, were actively motile.

Pfeiler undertook a series of biological experiments, of which he gives details and tables, with this bacterium; and proved it to be related to the para-typhus group. He remarks that, as canaries are the housemates of mankind, and often, among canary breeders, hundreds of them live together in one room with human beings, it is possible that such proximity may be dangerous to human health. On that account, he considers his observation of epidemiological interest.—(*Berliner Tier. Woch.*)

W. R. C.

CEREBRAL HÆMORRHAGE IN A DOG.

A two months old pointer puppy was brought to me in a fit. The breathing was irregular, after a few hurried expirations, a halt followed: the heart's action was similar, now rapid, now slow, pulse imperceptible. The left hind leg alternately with the fore was quickly convulsed. At times there was a convulsive opening of the mouth, champing of the jaw and bending of the head backward, or of the back. There was loss of consciousness, the eyes were open, the pupils did not react to light. The feet were cold. Thinking there was cerebral hæmorrhage I tried treatment, but death occurred in 20 minutes. Before death the symptoms decreased in frequency and severity. P.M. I found two or three drops of blood in the right ventricle of the brain. Afterwards the owner succeeded in learning that the maid servant, whom the puppy worried in play

had thrown it against the wall when it immediately lost consciousness.

V.S. N. Foss, Ufa, Russia.

(Ex. *The Social Veterinary Record* from the author's original Esperanto).

F. E. P.

ENCERBA SANGELFLUO CE HUNDO.

Oni alportis al mi 2monatan hundidon-pojuteron, al kiu ĵus okazis la nerva paroksizmo pro nekonata kaŭzo, daŭranta same antaŭ mi. La spirado-interrompa; post kelkaj oftaj eksopiroj sekvis halto; ankaŭ la koro, ĝijen ofte batis, jen malrapidis, la pulso estis nesentebla. La malantaŭa maldekstra piedo, alterne kun la antaŭa, rapide ektremadis. Kelkfojojn okazis jen konvulsia malfermo de la buse, jen la ofta salivmacado kaj fleksigo de la kapo malantaŭen aŭ fleksigo de la dorso. Konscio mankis, la okuloj-malfermitaj, la pupilo ne reagis kontraŭ lumo, la piedoj-malvarmaj. Konsiderinte, ke okazis encerba sangelfluo, mi faris iajn penojn por savi, sed la morto sekvis post 20 minut. Antaŭ la morto la nomitaj simptomoj estis ciam pli kaj pli maloftaj kaj malakraj. Post la sekcio mi trovis 2-3 gutojn de sango en la dekstroa ventrikulo de la cerbo.

Jam poste la poscedanto sukcesis ekscil, ke servistino, kiun tiu hundido tedis per sia ludo, repusis ĝin kaj ĝi alfrapiginte al muro tuj perdis konscion.

Veterinaro N. Foss, Rusujo, Ufa.

El Esperanto tradukis Sro F. E. PLACE.

(Estis presita en la rusa "Informilo de l'socia veterinario.")

NORTH OF SCOTLAND VETERINARY MEDICAL SOCIETY.

The half-yearly meeting was held in the Agricultural Department, Marischal College, on Saturday, Jan. 27th. The following members were present: Messrs. Anderson, Keith; Brown, Banchory; Hepburn, Aberdeen; Howie, Alford; Kerr, Ellon; Murray, Cullen; Morrison, New Deer; Marshall, Aberdeen; McPherson, Huntly (President); McGregor, Old Deer; Sievwright, Tarland; Laing, Turiff.

Apologies for absence were sent by Messrs. Gunn, Peddie, Watson, Bell, and Baxter.

The minutes of last meeting were read and approved.

CORRESPONDENCE.

A letter from Mr. Stockman, Board of Agriculture regretting his inability to accept an invitation to come north to deliver an address on Anthrax before the Society.

A letter from Mr. Gofton asking the Society to appoint representatives to act on the Council of the reconstructed National Society.

On the motion of Mr. Morrison, seconded by Mr. Anderson, and unanimously carried, Mr. McPherson, Huntly, President, and Mr. Howie, Alford, Hon. Sec., were appointed.

A letter from the Royal Sanitary Institute inviting delegates to the forthcoming Congress at York was allowed to lie on the table.

The PRESIDENT said that the annual event called the President's inaugural address might, in his opinion, be very well dispensed with, for the reason that it was very difficult for presidents to find anything fresh in the way of veterinary politics to speak about; so much of

the same kind being repeated again and again at meetings of the various Societies and published in the veterinary papers.

He would just like to say a word or two about anthrax. He regretted extremely that Mr. Stockman had not been able to accept the Society's invitation to come North to address the members on this subject. He felt quite certain that such a visit to the most anthrax-infested district of Great Britain would have been productive of nothing but good, and would have tended to remove many misunderstandings at present in existence regarding the diagnosis of anthrax.

He stated that he was one of those who recognised that there was a decided difficulty in diagnosing anthrax. He had last summer had several of his diagnoses upset by the Board of Agriculture, and feeling somewhat aggrieved thereat sent duplicate slides to a friend on whose bacteriological knowledge he could depend. In every case the diagnosis of the Board of Agriculture was upheld by his friend. He stated that in his experience cases occurring in summer were more difficult to diagnose than those we get in winter. The heat probably promoting the growth of bacilli, such as those of malignant oedema, and thus confusing the issue.

He counselled the members to have very great patience with the officers of the Board, because they had a very difficult task to perform, though he would admit that it was perhaps a little galling to have one's opinion upset. He thought that we should all do our best to support and assist the Board. For veterinary surgeons were likely to have a lot more to do with the Board of Agriculture in the near future than at present, as there was every likelihood of both tuberculosis and contagious abortion becoming scheduled diseases.

STERILITY.

By Mr. WM. BROWN, M.B.C.V.S., Banchory.

I have chosen this subject for discussion, as it is one which falls in with my special liking. It has received very inadequate attention from both medical men and veterinary surgeons, and the condition is so common amongst animals of the more approved breeds that it causes much loss to those engaged in the breeding industry.

I propose to confine my remarks, more especially to the female, as sterility is perhaps more often found in the female than in the male, and more may be done for the condition in the former than in the latter.

We may define "Sterility" as the incapacity on the part of an animal to reproduce its species. It may be absolute or relative. Absolute when the animal fails to conceive; relative where conception occurs only very occasionally, and where the animal breaks service habitually, or aborts.

Before considering the ætiology of the condition, we might first inquire into the cause of normal heat or œstrum and the conditions which accompany it, in order that we may more clearly follow them pathologically. The physiology of œstrum has only recently been elucidated. We owe our knowledge of it to the excellent work of Mr. Walter Heape and Dr. Francis Marshall, of Cambridge, which was communicated to the Royal Society in 1900-1903.

In 1865 Pflüger advanced the hypothesis that œstrum was due to a nervous reflex, caused by the pressure of the ripe Graafian follicles on the nerve endings in the ovaries. Goltz, however, in 1874 disproved this by transecting the spinal cord in the lumbar region, and finding that normal œstrum occurred nevertheless. This distinctly proved that œstrum was not nervous in origin.

Brown-Sequard (1889) was the first to show that the ovary, like the testicle, produced an internal secretion into the blood which has an important bearing on meta-

bolism. This secretion, which Starling has named a hormone, is formed continuously, but at certain regular periods is produced more abundantly, and has been proved by Heape and Marshall to be the cause of œstrum. Various extracts from the ovary during an œstrus period have been made and used in human medicine for certain ovarian disorders. These, such as "ovarine" "oophorine" and "ovigenine" when injected in sufficient doses will produce a condition to all appearance like ordinary œstrum, but, to my knowledge, they have not been used on veterinary patients. It has further been shown by Marshall that if the ovaries be entirely removed from the female, œstrum will not occur, but if they be transplanted into any part of the body, even subcutaneously, the condition will reappear. Where only parts of ovaries are transplanted œstrum will follow to a lesser degree.

It is interesting to note here with respect to the male, and especially in the case of cryptorchids, that Shattuck and Seligmann (1904) have shown in several experiments that if a testis be broken up and fragments remain in normal position or even become attached to viscera, the animal will retain a certain amount of his male characters. They say "one must regard the external character of maleness as a quantity which varies proportionately with the amount of gland tissue present."

Concomitant, and practically synchronous with œstrum is the process of ovulation, a process by which the ovum (one or more) becomes mature, and is then extruded from the ovary ready for fertilization by the spermatozoa. The cavity from which the ovum escaped is filled up by a tissue known as the corpus luteum—a tissue which, if conception occurs, persists during the greater part of the period of gestation, and has a very important bearing on the fixation of the fertilized ovum to the uterus. At the same time as these phenomena are going on a complicated process of preparation is proceeding in the uterine wall. There is a congestion, and an increase of capillaries in the submucous coat. The walls of the vessels give way and blood is extravasated into the submucosa. The uterine mucous membrane then ruptures here and there, and blood in some animals, in others blood mixed largely with mucus finds its way into the uterine cavity, then to the vagina, and thence outside. This is followed by a process of recuperation—a repair of the uterine wall—leaving it fresh for the fixation of the fertilized ovum. Geddes and Thompson, in their evolution of sex, say the process is viewed as a kind of surgical freshening of the uterus for the reception of the ovum, whereby the latter during the healing process can be attached safely to the uterine wall.

With these preliminary remarks on the phenomena of œstrum we will now turn to the ætiology of sterility. Eugen Bass, *Journal of Comparative Pathology and Therapeutics*, 1894, has divided this under three heads:

Inability to Form Ova.

The power to produce ova presupposes a healthy ovary. If these are absent—which is very rare—or if they be markedly pathological, ova will not be produced. Absence or deformity of the ovaries is mostly seen in a heifer which has been twin with a bull—a "Free marten," an animal often masculine in appearance. I have, however, seen a heifer which was twin with a bull breed.

Under this heading we also class all inflammatory conditions of the ovaries and their results, such as atrophy, or septic or purulent formation, which latter may be secondary to similar conditions previously present in the uterus. The ova and ovarian tissue may thereby be destroyed. Tuberculosis of the ovaries in cows is not uncommon, and to this may be added cysts, fibromata, carcinomata, melanomata, and sarcomata.

The diagnosis of these conditions is by no means easy. We may have absence of œstrum, or exaggerated œstrum

or nymphomania. Tuberculosis of the ovaries, in the early stages at any rate, is a frequent cause of nymphomania. The cow becomes what we call a "buller," she loses her shape, becomes masculine in appearance, often loses condition, and often is nearly constantly in œstrum.

Pathological conditions of the ovaries, however, are not always the cause of nymphomania. Certain cases are undoubtedly due to nervous irritation, especially in mares, and this leads to a degeneration and atrophy of the ovaries as a result. Its cause is difficult to determine—it may be one of the disharmonies which Metchnikoff, in his "Nature of Man," has pointed out to be so common in the generative systems of animals.

Climatic conditions, heat and cold, a dry, warm season, influence reproduction to a great extent, and thus may be looked on as acting through the nervous system.

Food plays a very important part in reproduction. Animals which are underfed or overfed often do not breed. Good feeding, however, is necessary, and is well demonstrated by the practice of "flushing" sheep, where they are put on to better rations a month before the "tupping" season. This has been distinctly proved by Marshall to produce a greater percentage of lambs. The quality of food also is important; many mares will not "settle" until put to grass for some time. Animals in poor condition should be put on better rations and tonics. Animals over-fat must be reduced by bleeding, physic, change of food and change of work. Obesity is, however, often a sign of pathological conditions of the ovaries, as absence of ovarian secretion leads to a deposition of adipose tissue, such as is seen after ovariectomy. Animals systematically prevented from breeding have been shown by Heape to become ultimately sterile. Animals mated at too early an age sometimes become sterile in after life.

Treatment.—In cases where there are pathological conditions of the ovaries treatment is of little avail. It has been recommended to crush cysts through the walls of the rectum, or withdraw their contents with a trocar, but such would give little result. On the other hand, sterility through bad feeding and keeping can usually be remedied. In this connection I am of the belief that there are many cases in which inability to produce ova, and often, too, absence of œstrum, is due to inertia of the ovaries through no pathological condition. In such cases the treatment depends on the use of certain aphrodisiacs, and upon these I should like to say a few words. These include Strychnine, Phosphorus, Arsenic, Damiana, and Chloride of Aphrodine. Cantharides has often been used, but its action is almost entirely as an irritant to mucous membranes, especially that of the uterus; whereas what is required is to increase ovarian secretion.

Aphrodine, according to Finlay Dun, stimulates the central nervous system, and causes marked congestion of the genital organs. It has the disadvantage of being costly, but I have used it with good results. I gave a heifer one grain per day hypodermically. She had never previously been seen "in season," but she took the bull after the 8th injection. She did not settle, however, and twice after came in season at regular intervals and settled the third time. Other cases in which I employed this drug were somewhat similar.

Damiana is also a valuable agent in absence of œstrum. Its effect is somewhat like aphrodine. A very useful combination is: Extracts of Damiana and Nucis vomica with Phosphate of zinc. Another is Phosphorus, Aloes, Iron and strychnine. Another prescription I have found useful is:

R	Ext. Coca	grs. xxx.
	Cinchona Sulph.	ʒi.
	Phosphorous	gr. ʒ.
	Ext. Nucis Vom.	grs. x.
	Ferri Brom.	grs. xl.

In these cases ovarian extracts would, I believe, be of very great value.

Inability to perform Coitus.—This may be due to abnormalities or adhesions of the vulva or vagina, to excessive development of the clitoris or hymen. I have known of one case of excessive development of the hymen which prevented coitus in a mare. After it was severed the mare began to breed. Imperforate hymen is common in cattle. In old, lean cows we sometimes see the vagina in almost a vertical position, preventing contact with the bull. Tumours within the vagina are not uncommon. The treatment in this condition depends upon the cause, adhesions may be cut or broken down, and tumours removed.

Inability to Conceive.—Before conception can take place the spermatozoa must meet the ovum in the fallopian tube, and perhaps sometimes in the ovary. Any condition therefore which prevents the ascent of the living spermatozoa will prevent conception.

Mechanical Obstacles.—The first of these is occlusion of the os. It is a very common cause of sterility in the lower animals. It may be a congenital condition or it may be acquired, due to injury from a previous parturition. It is not uncommonly the seat of malignant growths or ulceration. Strictures, displacements and tumours of the fallopian tubes, and displacement of the uterus enter into the category.

Treatment of stricture of the os. Dewar maintains that if a quill can pass through the lumen of the cervix it is sufficient to allow of the passage of the semen. As a rule, we find on examination after coitus in the mare that the lumen will admit of the passage of one or two fingers. If the whole hand can almost or wholly pass the condition is often one of nymphomania. If not, the animal is nervous and relaxation of the os is present, the semen is often expelled in the same way as in spasm of the vagina (vaginismus). In complete closure of the os dilatation may be accomplished by the fore finger, and afterwards may be dilated to the extent of admitting all the fingers of one hand. When, however, passage of the finger is impossible a blunt smooth sound or bougie of small diameter should be pushed through the cervix. If the closure be due to adhesions it may be necessary first to use a bistoury. When one has succeeded in passing a small bougie a larger and larger may be passed until the os is well dilated. If the occlusion is due to muscular contraction the os may again contract as soon as the sound is removed, or if due to adhesions these may again unite; it is well, therefore, that a tent be introduced into the orifice for a few days. If this is done the dilated os will remain in this position for a time, and ruptured adhesions will have healed up. Craig describes a tent made by soaking a sponge, to which a short string is tied, in a solution of Gum Arabic; it is then closely wound round with a thread, so as to form an elongated pointed mass four to five inches long; when dry the thread is removed, and the sponge smeared with glycerine is inserted into the os. Here it softens and expands, and in so doing widens the canal. Tents made of dried seaweed are also on the market, and answer very well.

It must not be forgotten that in conditions of complete closure of the os, a certain amount of fluid may be retained within the uterus, due to the secretions from the uterus during the periods of œstrum having accumulated. These secretions may decompose and become septic or purulent, but the most common condition perhaps is acidity. Acidity may be tested with litmus paper, and if present it will at once destroy spermatozoa. In such cases the uterus should first be rinsed with a weak solution of Iodine, followed by repeated flushings with a 2% to 5% solution of bicarbonate of soda. I have often noticed that an animal would not conceive until the second or third period of heat after the os has

been dilated. I take it that only after that time the secretions and mucous membranes of the uterus have taken on a healthy condition.

In cases where the cervix uteri is contracted, long, narrow, or small, and where the vagina is small or ruptured, artificial insemination has been practised with fairly good results. I believe it was first used in bitches by Spallanzani in 1784, and later by Rossi, but it seems to have fallen into disuse in this country until 1897 when it was carried out in bitches and mares by Walter Heape. It is also practised in America and India. The operation consists of introducing semen through the os uteri by means of a syringe. After coitus the semen will be found in the lowest part of the vagina, it is drawn into the syringe, which should be sterile and at blood heat, the nozzle is then passed through the os and the semen discharged into the uterus. From my own experience I have had a certain amount of success with this method, but I much prefer to dilate the os and follow with a uterine tent, as by this method the uterus can be more easily flushed out, and I consider this a very important point if success is to result.

Pathological conditions of the uterine mucous membrane. There are many conditions of the uterine mucosa which cause sterility. Catarrh of the mucous membrane, metritis, acute and chronic, hydro or pyometra destroy the semen when it enters the uterus. Inflammatory conditions of the membranes also prevent fixation of the ovum after it may have been fertilized. Tuberculosis of the uterus has a similar effect. Manual examination of the genital tract, the presence of mucopurulent or evil-smelling discharge will help one to arrive at a diagnosis. As treatment, washing out of the uterus with antiseptics and astringents is indicated. For acidity of the uterine discharges Boillard recommends injection of a little warm water into the vagina before copulation, while others recommend the injection of a warm soap solution.

Retention of the foetal membranes after parturition or abortion and consequent endometritis is a fruitful cause of sterility. These I consider should be removed after 24 hours, and the uterus thoroughly irrigated with disinfectant and astringent solutions.

Nervous obstacles. Lastly we may mention nervous obstacles to conception. Colin has pointed out that the semen is often passed out as a result of severe straining after copulation. This is often seen in young animals in good condition. It may depend on a neurosis: it is sometimes known as vaginismus. In order to prevent this, Colin recommends that the animal be exercised briskly after coitus, and that cold water should be poured over the hind quarters.

DISCUSSION.

The PRESIDENT congratulated Mr. Brown on the excellence of his paper on such an interesting and important subject to all country practitioners.

Mr. CUMMING thanked the essayist for his excellent paper, and said that he had not made a hobby of the subject, though he had practised artificial insemination with varied results, and dilatation of the os with partial success.

Mr. MARSHALL thought that the greatest difficulty was in diagnosing the exact cause of sterility in view of adopting any particular line of treatment. He believed that high feeding for show purposes was a great cause of sterility. In mares his experience had been that hard workers conceived best. In artificial insemination of cows he had often experienced a great difficulty in getting the nozzle of the syringe into the os, owing to the spiral form which that organ often assumes. In some cases indeed he had completely failed.

Mr. ANDERSON had experience of contagious vaginitis,

and asked Mr. Brown if he thought that disease would act as a cause of sterility.

Mr. HEPBURN said that in his experience occlusion of the os and endometritis were the chief causes of sterility. He quite agreed with Mr. Marshall about the great difficulty in dilating the os in cows. He had had a special instrument made and yet had little success. He was of opinion that chronic endometritis often followed contagious abortion, and acted as one of the causes of sterility. Regarding the injections of Iodine, he would like to ask Mr. Brown the strength of the solution and his reason for using it. He believed that feeding had a great deal to do with sterility. He had used the artificial inseminator with a fair amount of success in mares, but in cows with none at all.

Mr. SIEVWRIGHT thanked Mr. Brown for his excellent paper, and said he had had various successes with both dilatation of os and the inseminator.

Mr. MCPHERSON (President) said he could add very little to the discussion which had not been already said. Finding out the exact cause was the great difficulty, as on a correct diagnosis depended the particular line of treatment to be adopted in any particular case. In cases of a discharge from uterus he had good results after injecting twice daily a solution of Condyl's fluid.

Mr. BROWN thanked the members for the favourable reception given to his first paper. Regarding the difficulty in dilating the os in the cow, he called to mind two cases, in one of which the os was entirely obliterated, while in the other a false membrane was growing across it. In one case he used a special lancet with which he made an incision, he then introduced a bougie until he could dilate it $\frac{1}{2}$ -inch. He then pushed a long sound right through, after which he put in a tent. Three days later the cow died from septic peritonitis from rupture of one of the horns of the uterus. This cow had tubercle of the ovaries. Regarding the spiral form of the os in the cow, one had to exercise great patience and work away until an entrance could be effected. He mentioned a new instrument for this purpose which was made of wood in the form of a corkscrew, but as yet he had no experience of it. In reply to Mr. Hepburn, the Iodine solution he used was 1% Lugol's solution which he used quite a fortnight before copulation as a disinfectant; if used more recently than that it would most certainly kill the spermatozoa. He always followed it up with a solution of Bicarbonate of soda. He concluded by saying that his belief was that in healthy animals the principal causes of sterility were occlusion of the os, inertia of the uterus, and diseases of the uterine mucous membrane.

The PRESIDENT then called for a hearty vote of thanks to Mr. Brown which was cordially responded to.

It was resolved that the business for next meeting would consist of a general discussion on interesting and out of the usual cases to be introduced by the members.

Place of Meeting. Mr. Cumming moved, and Mr. Hepburn seconded, that the place of meeting should be removed to some room in, say, a hotel or restaurant where the members could sit round a table and discuss the business of the Society in a freer and more friendly way than from the benches of a class room.

Mr. ANDERSON moved the amendment that we remain in the present place. This was seconded by Mr. Morrison.

On being put to the vote the motion was carried by a majority.

A vote of thanks to the President brought the meeting to a close.

GEORGE HOWIE, Hon. Sec.

NORTH OF IRELAND VETERINARY MEDICAL ASSOCIATION.

The annual general meeting was held in Deveney Chambers, North Street, Belfast, on Thursday, 18th January. The President (Mr. F. W. Emery, F.R.C.V.S.), occupied the chair. The following members were present: Messrs. Howard McConnell, J. Ewing Johnston, W. C. M. Smith, F. R. McRoberts, John McLean, J. McAleer, Henry Gibson, J. A. Thompson, and J. A. Jordan. Apologies were received from Messrs. J. J. Ross, Matt Hedley, Wm. Dawson, A. Snodgrass, and Capt. Nicholas.

The minutes of the last meeting were read, and on the motion of Mr. Howard McConnell, seconded by Mr. J. A. Thompson, passed and signed.

INTERNATIONAL VETERINARY CONGRESS.

The PRESIDENT pointed out that as the expenses of this Congress would entirely devolve on the members of the profession, we should consider what we as an Association were going to do. He would suggest that an amount be decided upon to-night, and that it be spread over three years. Individual members, he said, could forward subscriptions to the Treasurer if they wished. The name of anyone subscribing £10 would appear on the Committee.

After discussion it was proposed by Mr. J. Ewing Johnston, seconded by Mr. W. C. M. Smith, and passed unanimously, that £5 5s. be ear-marked annually for three years and forwarded to the Treasurer of the Congress.

CORRESPONDENCE.

Mr. JORDAN read communications he had received. From Mr. J. B. Dunlop, Dublin, in which the writer expressed a desire to read a paper entitled "Is Tuberculosis Hereditary," before this Association at an early date. It was unanimously decided to inform Mr. Dunlop that this Association welcome the opportunity of hearing him on such an interesting subject, also that the Secretary be requested to convene a special meeting for that purpose to be held on Friday, 16th February.

A letter from Mr. Faithfull-Davies in which he mentioned that a Congress would be held next October in Paris in connection with the Société de Pathologie Comparée, and asking that it might be brought under the notice of this Association. The letter was marked Read.

Letters resigning membership from Messrs. Snodgrass and Crighton. The Secretary was requested to write Mr. Snodgrass asking him to favourably reconsider his decision, and Mr. J. A. Thompson arranged to personally interview Mr. Crighton with a similar object.

The TREASURER submitted his annual balance sheet, which showed that the funds in hand were in excess of the amount of last year. He expressed regret at having to report so many outstanding subscriptions.

Mr. MCCONNELL, in moving a hearty vote of thanks to the Treasurer, said that he was glad to hear that the Association was in such a satisfactory financial position, and he was sure they all felt safe so long as Mr. Thompson had control of the Association's funds. Mr. Gibson seconded, it was passed by acclamation.

ELECTION OF OFFICERS.

Mr. JORDAN said he desired to propose as President a gentleman who had taken a great interest in all the affairs of the Association since its inception, and had been a regular attendant at all its meetings. He believed Mr. Howard McConnell would make a worthy successor to the excellent President who is vacating the chair (Mr. Emery), and he was confident that the Association would continue to prosper under his guidance.

Mr. GIBSON seconded, and it was passed by acclamation.

Mr. EMERY, on vacating the chair, thanked the officers and members for the loyal support they had given him during his two years of office; he sincerely hoped that the same support would be extended to his successor, Mr. McConnell.

Mr. McCONNELL, on taking the chair, thanked the members for placing him in such an honoured position. He hoped, with the assistance of the members, to make the present year a record one; to try and influence all the members of the profession in the North to join this Association, thereby cement the Veterinary profession in the North of Ireland into one body with one object, namely, to elevate the social standing of our profession generally, and to establish, promote, and maintain a good and friendly understanding amongst the members. He trusted the members would attend the meetings of the Association, and take an interest in all the questions that came up for discussion from time to time.

Vice-President. Messrs. W. C. M. SMITH, Newry, and JOHN KERNOHAN, Ballymena, were unanimously elected.

Treasurer. Mr. J. A. THOMPSON, J.P., Lurgan, was unanimously re-elected. In thanking the members for their continued confidence in him as their treasurer, he trusted that the Association would continue to prosper in the future as it had undoubtedly done in the past.

Secretary. Mr. J. A. JORDON was unanimously re-elected. He also thanked the members for their continued confidence and said he would very much have preferred that some of the other members had been selected. He had now held the office for four years, and he could assure them that he would have been only too glad to hand over the seals of office. However, he had decided to accede to their request and continue to discharge the duties to the best of his ability for one more year.

Council. The following members were unanimously appointed: Messrs. J. J. Ross, F. W. Emery, J. E. Johnston, John McLean, F. R. McRoberts, W. Dawson, and Joseph McAleer.

THE RELATION OF VETERINARY SCIENCE TO PUBLIC HEALTH, by F. W. EMERY, F.R.C.V.S.—DISCUSSION.

Mr. THOMPSON, in congratulating Mr. Emery on his excellent paper, admitted he had not read it as carefully as he should have. With regard to the question as to the right of one authority sending their officials into the district of another authority to inspect the dairies, he was quite in agreement with Mr. Emery. He understood the Belfast Corporation sought this privilege, and he considered that if such were granted it would lead to a great deal of confusion, and the results would be deplorable. In his district a great improvement had been made in the sanitary condition of the byres, and greater attention was paid to the condition of the cows. The farmers, realizing the advantage of keeping their byres and cows in a clean and healthy condition, were anxious and willing to carry out any suggestions he made to them. A great number had made improvements in the floors of their byres by putting down concrete. No doubt there were still a number of very bad cases where the milking utensils were not properly cleansed, the cows not groomed, and where the personal cleanliness of the milkers was not as he would wish them.

Referring to Veterinary Lecturers, he said that if they would confine themselves to instructing the farmers in veterinary hygiene instead of describing symptoms and treatment of diseases they would be an advantage not alone to the farmers but to the veterinary profession, instead of being, in his opinion, a curse to both. At present many quacks were practising throughout the country, castrating and operating for hernia. He knew

himself of a young farmer who, after attending one of these lectures, attempted to treat a neighbour's horse for hernia, with the result that the neighbour lost his horse. Some time ago he brought this matter of Veterinary Lectures before the Veterinary Medical Association of Ireland, when it was decided to bring the matter under the notice of the Department of Agriculture. The Department replied that it was not their intention to interfere in any way with veterinary practitioners or do them harm, and that the matter would have their attention. Still the same thing goes on.

Mr. GIBSON congratulated Mr. Emery on his paper. He stated that he had attended a few of these lectures while stationed in County Wexford. He heard the lecturer describe how difficult parturition cases should be carried out, he also heard him describe in detail the Caesarean operation.

Mr. JOHNSTON suggested that a resolution should be framed with reference to these veterinary lecturers, and copies forwarded to the Royal College, to the Department of Agriculture and Technical Instruction for Ireland, and to the different County Councils.

Mr. EMERY considered Mr. Johnston's suggestion should be acted upon, and it was decided to leave the matter in the hands of the Council.

The PRESIDENT thanked Mr. Emery for his most interesting and comprehensive paper. He was glad that mention had been made of the manner in which the transit of pork was carried out in Ireland, especially in the North. No thought was evidently given to sanitation, carcasses were thrown into railway waggons along with other merchandise, and cartloads of dead pigs were conveyed from place to place without any covering whatever. This, to his mind, was most undesirable. He was of the opinion that if the Belfast Corporation Inspectors were granted the power to enter and inspect dairies in country districts the results would be deplorable. If the Belfast authorities had reasons for being suspicious of the milk supplied from any particular district they should communicate with the local veterinary inspector of that district, and ascertain some facts from him before taking any action. In his district he had most trouble with the small dairymen, the more extensive ones took an interest in their places, and endeavoured to bring them up to the required standard. With regard to veterinary lectures he might say that he had them in some part of his district every day. In his opinion they were of no assistance to the farmers. If they were conducted on proper lines and confined to veterinary hygiene and the care of cows—instead of describing symptoms and treatment of diseases, practical demonstrations as to how to examine for side bones, and instructions how to conduct the tuberculin test, he had no doubt that they would be of considerable service to the intelligent farmer. He said that if the Royal College wished to secure the assistance of the veterinary profession in Ireland they should at least try and do something to put a stop to the manner in which these lectures were conducted, and exercise some control over the members of the profession who acted as lecturers. With regard to the question of meat inspection, he had little to say further than he was sorry no such thing took place in his district.

Mr. EMERY in thanking those who had taken part in the discussion, said he very much appreciated the kind things they had all said with reference to his paper.

Mr. JORDAN said that before the business of the meeting concluded he would like to perform a very pleasing duty, namely, to move a most sincere and hearty vote of thanks to the immediate Past-President (Mr. Emery) for the way in which he had conducted the business of this Association during his two years of office. He had maintained the dignity of the chair and the prestige of the Association.

Mr. THOMPSON said it afforded him great pleasure

to second the motion, and he agreed with every word Mr. Jordan had said. [Passed by acclamation].

Vote of thanks having been passed to the President the meeting terminated.

A special meeting was held on Friday evening, 16th February, in the Association's Rooms, 7 North Street, Belfast. The chair was occupied by the President, Mr. Howard McConnell. The following members were present:—Messrs. Robt. Kernohan, J.P., J. A. Thompson, J.P., Frank R. McRoberts, Jno. McLean, James Gregg, James Devlin, Henry Gibson, W. C. M. Smith, J. J. Ross, J. Ewing Johnston, and J. A. Jordan, Hon. Sec.

Apologies for non-attendance were received from Messrs. F. W. Emery, and T. D. Taylor.

The SECRETARY having read the circular convening the meeting, the President in a few well chosen words extended a hearty welcome to Mr. J. B. Dunlop, M.R.C.V.S., Dublin.

IS TUBERCULOSIS HEREDITARY.

By J. B. DUNLOP, M.R.C.V.S.

Mr. DUNLOP, who was received with applause, said that it afforded him a great amount of pleasure indeed to be up amongst his professional brethren in the North once more, and to see so many familiar faces. He thanked the President and members for their courtesy in arranging the present meeting, especially seeing that their annual general meeting had been held so recently. He said the paper which he was about to read contained theories which might be considered by some as not altogether orthodox, however, they were the results of a great many years close observation, and he was going to put them forward in order that they might be discussed.

There is no subject engaging the attention of the profession so much as the eradication of bovine tuberculosis. It is impossible to eradicate the disease in man, even under the most favourable conditions, while he continues to drink unsterilised milk from infected animals. According to the report of the Royal Commission, the milk of cows affected with tuberculosis, even when no tubercular lesion of the udder is apparent, often contains the specific bacillus. Pure milk free from disease is an important part of the food of man and is a necessary food for the infant. Boiling the milk for a few minutes has the effect of destroying any bacilli that it may contain, but this is seldom done, and when done it has the effect of destroying the enzymes which are a necessary aid to digestion in the infant. It is said that milk can be sterilised by means of pasteurisation without destroying the enzymes, but many believe that the bacilli cannot be destroyed in any way without destroying or impairing the enzymes or rendering the milk undrinkable. It is said that twenty-five per cent. of the cases of tuberculosis occurring in the human family are caused by the bovine bacilli, and that the victims are mainly children. Bovine bacilli are much more virulent than the human variety. Twenty-five to thirty per cent. of dairy cows are believed to be affected with tuberculosis, and it has been stated that the eradication of tuberculosis would diminish the annual death rate of British cattle by 20 to 30 per cent.

Before proceeding to indicate the lines on which we, as a profession, must proceed in order to rid our country of tuberculosis, we have to consider whether the disease is hereditary or not. No one can deny that the disease is contagious, and I need not tell you gentlemen that it is also highly infectious. The simplest method of procedure would be the wholesale slaughter of the affected animals, but I need not say that would be too costly.

The object of this paper is to show how tuberculosis in cattle can be eradicated at small cost to the State,

with immediate profit to the farmer, dealer, breeder, and dairyman, and without inconvenience to the community. In order to stamp out the disease with certainty and a minimum cost to the country it must, in my opinion, be dealt with as one which is hereditary as well as highly infectious.

Authorities are unanimous in saying that tuberculosis in man and animals is infectious, but they are divided as to whether the disease is hereditary or not. Looking at the subject from the breeder's point of view, the disease in cattle is, I think, hereditary, inasmuch as the disease runs in families. It is well known that some breeds of cattle are more predisposed to the disease than others, and there is abundant evidence to shew that the degree of susceptibility to the disease varies in different individuals, the only difference being in the chemico-physiological inborn condition of the several individuals, age and other conditions being similar. It is well known that the Ayrshire, the Shorthorn, and the Jersey breeds of cattle are more liable to contract tuberculosis than the Hereford, the Galloway or the West Highland breeds. At one time, when the breeds were more distinct the Alderney was more susceptible than the Jersey.

Tuberculosis, like any other infectious disease, is caused by the entrance into the body of the specific microbe known as the tubercle bacillus. Tubercle bacilli do not multiply naturally outside the body, therefore no person however delicate or susceptible to the disease can contract tuberculosis unless he or she receives the microbe directly or indirectly from some other affected person or animal. Tubercle bacilli have been compared to seed. Some seed falls on hard and stony ground and will not grow, some falls among thorns and is choked. Probably with the great majority of mankind the bacilli are taken into the body but they are unable to penetrate the mucous membrane, which is the first line of defence—the ground is too hard for the seed to take root. Every person receives the specific microbe into his or her body at one time or another, but all do not contract tuberculosis. Happily we are not all good culture ground. Susceptibility is inherited, not the seed. The soil may be greatly modified by environment.

Bacteriologists tell us that the tubercle bacillus is never present in the body of a child at birth, and veterinary bacteriologists tell us that a small percentage of calves are born with the bacilli in their bodies, but the number of such calves is insignificant and they need not be taken into consideration, therefore tuberculosis in animals as well as in man may be taken as not being congenital.

Some veterinary bacteriologists contend that tuberculosis in man is not hereditary or that it does not run in families, and they naturally infer that the disease in cattle also is not hereditary. Being opposed to these views it will be necessary to prove that the disease in man as well as in animals is hereditary.

It is an acknowledged fact that all living things are determined by heredity and environment, therefore there can only be these two factors in the causation of any disease or any form of life. Predisposition to tuberculosis may be part inherited and part acquired by environment.

A large proportion of the human family possess, or rather inherit, the power to resist tuberculosis in a very high degree. Many of these people live for years in the slums in poverty, dirt, and misery, in badly ventilated dwellings, inhaling and ingesting large quantities of the infective material, and die eventually of any disease except tuberculosis. On the other hand some people are extremely susceptible to the disease even under fairly favourable health conditions; between these extremes are to be found in different individuals all degrees of susceptibility or insusceptibility to tuberculosis. With many individuals natural insusceptibility is not well

marked—with them it is only a potentiality. In such cases the environment is a powerful factor tending to develop or to suppress the inherited power to resist the disease. Unhealthy surroundings are predisposing causes because they increase the inborn predisposition to the disease or they decrease the inherited powers to resist the disease. The wise physician advises those under his charge to take special care to avoid and guard against the affection.

To prove that tuberculosis is not hereditary, cases have been cited in which a healthy "disease-resisting" child has been born of a diseased parent, but such cases prove nothing; some diseases pass over one generation. According to Galton's law of ancestral inheritance the two parents contribute one half, the four grand parents one quarter, the eight great grand parents one-eighth (each great grand parent one sixty-fourth) of the total heritage of the average offspring. The offspring are rarely intermediate between the two parents. The offspring may resemble one of the parents. Some of the offspring may resemble one of the parents and some the other. Some of the offspring may inherit some of the peculiarities of one or both parents unimpaired or even enhanced. When both parents possess a certain character or peculiarity we can be almost certain that it will be transmitted. Some individuals possess a high degree of potency to transmit to their progeny their characters, and this is more marked when the other parent is weak in this respect. The inborn disposition to contract diseases, infectious and non-infectious, appears to follow Galton's law of ancestral inheritance.

It is well known that tuberculosis often runs in families, but some people say that the exceptional frequency of the disease among children of affected parents is solely due to the fact that such children, living as they do in close association with their parents, are exceptionally exposed to the risks of infection.

That the exceptional frequency of tuberculosis in the children of affected persons is, in a large measure, due to exceptional susceptibility, has been proved over and over again. The fact is quite apparent where some members of a family contract the disease and other members escape, all having been reared and living under the same roof.

A connection of mine, a healthy man, having a healthy family history, married into a consumptive family. Half the children died of tuberculosis. The eldest daughter nursed the sick members of the family and lived to a good old age. All were born and reared in the same house. The father married again into a healthy family. The second family, a son and daughter, are alive and strong, and they, too, were reared in the same house. Such cases are not uncommon. I have known of instances where two sisters slept together and one died of consumption, and the other lived to a good age and remained healthy. Many of us must have known or heard of cases where one of a married couple died of consumption. In the majority of these cases the survivor never exhibited any symptoms of tuberculosis; in a minority of cases the survivor contracted the same disease. Obviously the difference in the results depended on the difference in the degree of susceptibility of the individuals. In all such cases the survivors must have been exposed to large quantities of the infection.

Long before Koch discovered the tubercle bacillus, nay, long before the germ theory of disease was accepted, many believed that tuberculosis was infectious, while others held that the disease ran in families. We know now beyond a doubt that tuberculosis is infectious, but only to those who are susceptible.

Though tuberculosis in man is not now congenital, probably it was so in prehistoric times. Children born with the actual disease in their bodies would, as a rule, be very delicate. The proportion who would live to marry would be very small, therefore in each succeeding

generation the number having the disease at birth would be less and less until the disease in the congenital form would cease.

Tuberculosis in cattle is rather different. In the great majority of cases of bovine tuberculosis the disease is chronic and non-fatal, spreading slowly and not sensibly affecting the animal's general health. The tissues of the cow have a wonderful power of surrounding and encasing minute collections of the bacilli with fibrous tissue—thus rendering them harmless. Knowing that to be so, we would naturally infer that many of the calves born with the bacilli in their bodies would survive till they became parents, and thus the disease in the congenital form would to some extent continue to be transmitted. We actually find at the present time that the disease in a small number of cases is congenital.

The progress of tuberculosis in many cases must be very slow and long continued, for we often find in aged cows large masses of tuberculous matter enclosed irregularly in capsules of fibrous tissue. This is why the disease is known in some parts of Ireland as "grapes." In a very small number of cases the disease is rapidly progressive and fatal. The disease in this form is, no doubt, gradually being eliminated by natural causes.

Many years ago a remarkable but by no means uncommon case of a bull disseminating tuberculosis came under my notice. The bull, which was a fine pedigree Shorthorn Prize winner, belonged to the Rev. —, a model farmer, not far from Newtownards. In the course of my duty as inspector I made a post mortem of two cows which had died in a dairy, of tuberculosis of the lungs, and I was informed that four other cows similarly affected had died a short time before in the same dairy. All these cows were bred from the same bull. The opinion of the farmers in the district was unanimous regarding this bull's potency to transmit tuberculosis.

At some of the meetings of the National Health Congress which took place recently in Dublin, interesting lectures were delivered on Eugenics. The views expressed by the lecturers appeared to be sound and correct. I am afraid, as far as human beings are concerned, these views could not be translated into practice. In the present state of society we cannot prevent the diseased, the degraded, or the imbecile from marrying.

I see no reason why Eugenics should not be applied to cattle. When a breeder seeks to develop a number of points or characters in a breed his task is a very difficult one. When his object is to develop one character only his task is a very simple one. It would appear to be a very simple matter to produce a strain of cattle which would, under ordinary circumstances, be capable of resisting tuberculosis. About seventy per cent. usually resist the disease. Select the seventy per cent. and breed from them. An exceedingly small per centage of the offspring may be expected to become affected. Select and breed again, and by repeating this process of weeding out, "stability" and "potency" will be produced, and new disease-resisting breeds quickly established.

Should it be considered necessary or advisable to produce a breed of cattle able to resist the disease under exceptionally unfavourable conditions (and this is unnecessary, because the science of hygiene and sanitation are progressive), let the cattle selected be kept in closer association with the diseased, and for a greater length of time, until the healthy are reduced say to fifty or twenty-five per cent. of the whole, and breed from these only.

The rules which guide breeders of stock have been gained by experience, and it is well known that any desired character or peculiarity in an animal can, by skilful breeding, be wonderfully intensified or developed.

Some say that the highest degree of insusceptibility possessed by any bovine animal is inadequate to enable it to withstand ordinary risks of infection. As a matter

of fact a large proportion of all breeds of cattle under ordinary conditions do not contract tuberculosis, no experiments are required to prove this. Veterinary surgeons can now almost infallibly point out the affected and the unaffected, and they seldom find more than one-third of a herd affected.

Excellent work is being done by private enterprise, and by officers of some local authorities in eliminating tuberculosis from dairy and other stock. Healthy cows are selected by the veterinary surgeon, generally from cattle reared and kept under most favourable conditions. The practice of selecting cattle from an extra healthy, well-kept stock will only to a small extent increase the disease-resisting power of the cattle selected, or of their progeny. The test is not severe enough to be of much service, and improvement cannot be progressive.

It has often been suggested that calves should be isolated from their dams at birth and fed on pure or on sterilised milk so that sound herds may be secured, and by careful continued isolation and constant watching that pure milk may in this way be obtained. The early isolation of calves from a mixed herd effects no improvement whatever in their ability to withstand disease, and there is always a danger of infection being accidentally introduced.

Disease-resisting stock of several breeds should be quickly established—not necessarily breeds capable of withstanding exposure to any amount of infected material for an unlimited time in close badly ventilated byres. No fire-proof building ever constructed is proof against a big conflagration. It is satisfactory to feel assured that no bacilli can generate within a healthy herd, that no accidental intrusion of the bacilli can take any appreciable effect on a well-tested and carefully selected stock, and the veterinary surgeon can easily remove at convenience any tainted animal.

Many are anxiously and hopefully looking forward to the time when tuberculosis will be eradicated from the human family. Hygienic conditions will be so much improved that our natural powers to withstand disease will be greatly increased. Centres of infection will be comparatively few, and where infection does remain it will be so diluted by scientific aerial sanitation that it will cease practically to be a factor in the causation of disease. It is all the more urgent, therefore, that something practicable should be done to eradicate the disease in cattle, in order to put a stop to the needless slaughter of the innocents, knowing as we do that the bovine bacilli are more virulent than the human, that it is the children especially who fall victims to the more virulent microbe, and that sanitary and hygienic measures cannot overcome the ingestion of large doses of the virulent infective material contained in impure milk.

The present generation can scarcely realise the good work which has been done in the past by the veterinary profession. Terrible animal scourges have already been stamped out. The field of preventive medicine is still large, and much remains to be done.

Of the many diseases that still remain with us and demand our attention, tuberculosis is the most urgent, because it is widespread and is the one common disease transmissible to mankind. Let us hope that the good work which is being done by veterinary officers of health, and by private enterprise under the guidance of the veterinary surgeon, will be continued and greatly extended. If we are to succeed effectively and expeditiously in eliminating the disease from our herds we must attack it vigorously on all sides, we must deal with it as a disease which is highly infectious and hereditary. Where there is sufficient housing accommodation, affected cattle should be separated from the healthy, and the former prepared for the butcher. In all cases small partitions should be erected at the heads of the cattle to separate one cow from another. It is lamentable to

think of cows being allowed to cough over each other's food; it is a breach of the elementary and fundamental laws of hygiene and sanitation. There could be no more speedy and effective way of disseminating disease: the infective material passes in this way directly into the lungs of the healthy cows, or is swallowed with their food. A small inexpensive drinking vessel should be provided exclusively for each cow, and each vessel numbered. Food refused by one cow should not be given to another. The trough should be cleaned out, and the attendant should wash his hands well before touching any other feeding stuff, or handling milk.

Dry excreta should not be rubbed off cows, as that causes dust, contaminates everything, and is liable to spread disease. It should rather be moistened well with some disinfecting fluid and scraped off. Where there is danger of dust rising from infective material the place should be sprinkled with a solution of commercial calcium chloride.

Dairyman and maid should wear overalls, and should be supplied with pocket handkerchiefs and instructed to use them when coughing as a result of cold or influenza, etc. The overalls and handkerchiefs should be dipped in a solution of say, five per cent. calcium chloride, and half per cent. zinc chloride, or a weak solution of glycerine, and taken out, wrung, and dried. The two chlorides are antiseptic and deliquescent. Nearly all the diseases we suffer from, and the contamination of milk are largely owing to the dust of infective material which had become dry. We cannot touch a piece of dry cloth or remove ordinary handkerchiefs from our pockets without creating dust.

The house fly is a distributor of disease. It has been observed that typhoid is more prevalent in cavalry and artillery regiments than among the infantry, and the horse manure pit is the great breeding den of the house fly. The house fly should be vigorously attacked in all its breeding places. A slight sprinkling occasionally of petroleum banishes it entirely.

The medical officer, the practitioner, the veterinary inspector, and veterinary practitioner should all wage war against flies and fleas. This (as well as a sanitary measure) would be a work of kindness, a relief to the poor, the careless, and the indifferent, and would, in a measure, mean the removal of a constant source of annoyance to our domesticated animals and a consequent monetary gain to their owners. Needless to say no person should be allowed to milk cows, or handle milk, whose hands are not kept perfectly clean.

No bull should be kept for stock purposes which has not been examined and tested by a qualified veterinary surgeon and certified as being free from tuberculosis. "Like begets like." The Boards of Agriculture and the Agricultural Department should without delay select and breed cattle which have been well exposed to, and which have resisted, the infection. They should also in every way assist breeders who would willingly co-operate, and special attention should be given to the establishing of new (preferably cross) breeds of milch cows, bearing in mind that there is milk *and* milk, and that nothing approaching good milk has yet been discovered for the cure and prevention of disease and the prevention of deformities. By selecting and establishing new disease-resisting breeds of cattle we would be doing effectively that which nature has been doing for us gradually and imperfectly for untold centuries.

The qualified veterinary surgeon being familiar with the cow in health and sickness, knowing all the diseases which are known to be communicable to man, and understanding as he does the improved structural arrangements of the dairy, as well as the correct treatment and management of cattle, is the fit and proper person to inspect and test cattle, and to give any needed instruction to the breeder and dairy keeper.

The busy practitioner cannot be expected to devote much of his time to morphology, but he can refer at any time to our veterinary colleges which are regularly engaged in research work of inestimable value.

Mr. GREGG complimented Mr. Dunlop on his paper and expressed his pleasure at seeing him once more in Belfast. The science of eugenics was one of particular interest to him owing to the fact that he was engaged in an agitation to breed up more milk in our dairy herds. If it were possible to do this it should also be possible to breed up a sound habit of body that would resist tuberculosis.

The paper gave rise to a very full discussion in which Messrs. Johnston, Smith, Gibson, Devlin, McConnell, and Jordan took part, all of whom paid high compliments to Mr. Dunlop for his very able paper.

Mr. DUNLOP having replied to the points raised by the several speakers, a hearty vote of thanks was passed on the motion of Mr. J. Ewing Johnston, seconded by Mr. J. A. Thompson, J.P.

The usual vote of thanks was passed to the Chairman, and the meeting terminated.

J. A. JORDAN, Hon. Sec.

Mechanical Lameness.—Summons Dismissed.

At Folkestone Borough Bench, before Mr. W. G. Herbert (in the chair), Councillor E. J. Bishop, Major G. E. Leggett, Messrs. J. Stainer, G. I. Swoffer, and G. Boyd, Edward Johncock was summoned for working a horse in an unfit condition.

Inspector Freeman, of the R.S.P.C.A., Dover, prosecuted, and requested that all witnesses should remain outside the court until they gave their evidence.

Mr. Myers appeared for defendant, who pleaded not guilty.

Inspector Freeman said that, in consequence of information received, he visited defendant's stable at Cheriton on the 9th of February at about 5 p.m. He saw defendant there, and said to him, "I have received complaints that you were working a horse attached to an oil van on the 5th, which was very lame, in Shorncliffe Road. Will you show me that horse?" Defendant took witness to a stable and said, "That is the one," pointing to a black gelding. Witness replied, "Why, that is the one I cautioned you about some time ago," whereupon defendant said, "Yes, that is the one. After you spoke to me I gave it a week's rest. It looked all right, so I put it to work again." Witness said, "Didn't you get the opinion of a veterinary surgeon?" He replied, "No, I didn't." As it was getting dark they arranged to examine the horse the next day. The following day witness went to a stable and examined the horse. He should say that it had been used as a carriage horse in its time. It seemed rather a superior horse. On examination he found that it was lame in both its fore feet, and the off knee was considerably swollen. The tendons of this leg were sprained and contracted, and the fetlock was overshot. The horse also had ring-bone on the side bones of the leg. He told defendant not to work the horse again, and defendant said he would not but would sell it. He said he would sell it by public auction. Defendant had done so, and witness had not seen it since. He had seen the horse in Cheriton Street on the 22nd January, and had then cautioned defendant.

Mr. Myers: Have you ever heard of mechanical lameness?

Witness: I think that only exists in a Police Court. The Inspector also said he thought the horse was 12 or 13 years old.

Miss Bertha Morris, of Hazlemere, Ashley Avenue, Cheriton, said she saw the horse in question attached to an oil van, being led by defendant, in Shorncliffe Road, on the morning of the 5th January. She noticed that it was very lame in the off fore leg. She stood and watched it for some moments until it had passed some distance on. She saw it again in the afternoon at about 4.30 in the Cheriton Road, being driven at a slow trot. On this occasion also it was very lame. She communicated with Inspector Freeman. Witness had had practical experience with horses. She had been a member of the R.S.P.C.A., but was not now. She had never been a witness in any case before this.

Mr. Johncock himself then gave evidence. He said that on January 22nd he went out with his horse and van, which was a very light one. On his round he saw Inspector Freeman, who came up to him and said, "I am afraid, Mr. Johncock, you have a lame horse there." He replied, "I don't think there is anything much the matter there"; but because of what the Inspector had said, he gave the horse a rest from January 23rd to February the 4th. On February 9th he again saw the Inspector in the evening. The following day he called again as arranged, and examined the horse. He said the horse was not lame then, but if he put it on the road it would be in ten minutes. Witness sold the horse at a public auction, and it fetched £8. He had bought it for £16, but as he had had it for three years and eight months, that was a very small depreciation; it was less than a shilling a week. He had not had much experience with horses.

Mr. Wm. Miller said he knew defendant. He saw him on February 5th, carrying on his usual business. He saw the horse nearly every day, and on the day in question he did not notice any lameness. He stood looking at the horse for about five minutes.

Mr. George Walter Ashby said that he had had five years' experience with horses in South Africa. Somewhere about 9 o'clock on the 5th February he saw the horse at the top of Park Road, walking at an ordinary pace. In his judgment it did not appear lame. Witness had been seeing the animal on his rounds about twice a week for two years.

Mr. Charles Footer, brother-in-law to defendant, said he was present on the 9th February when Inspector Freeman examined the horse. When he (Inspector Freeman) had looked at the horse he said, "It is not lame now, but if you put it on the road it would be in ten minutes. It is no more use to you now." Defendant then said, "I shall sell it."

Mr. Henry B. Eve, M.R.C.V.S., of Claremont, 86, Cheriton Road, deposed that he examined the horse on the 12th February, and then found it in good bodily condition. In 1907 the horse had a very severe accident, cutting its knee nearly to the bone. He then explained that although the knee had healed up remarkably, the tendons and muscles will never set exactly as they were before, and this caused a stiffness, and rendered the horse lame. But it was what was known as mechanical lameness. This was quite different from lameness owing to a sprain. Although a horse might have mechanical lameness, it would not suffer pain from this cause. In his opinion it would not be cruelty to put a horse to light work when it was suffering from mechanical lameness.

After a short deliberation by the Magistrates, the Chairman said they were of opinion that the evidence pointed in the favour of the defendant, and because of this they would dismiss the case, but the Inspector was quite right in taking the proceedings. They would make no order with regard to the costs.—*Folkestone Herald*.

"Mechanical Lameness"—Dismissed

Charles Cousins, 40, carman, of 140, Wickham Lane, Plumstead, was charged on remand at Woolwich Police Court on Thursday, Feb. 29th, before Mr. Symmons, with cruelty to a horse, and Henry Jacobs, of 1, Saunders Road, Plumstead, was summoned for causing the same.

Mr. F. J. Tyler appeared for the defendant.

The evidence of Police-constable McPherson was to the effect that he saw Cousins driving two horses attached to a van laden with coal, in Plumstead High Street. One of the animals was lame in both hind legs. When he saw Jacobs, he said he knew the animal was lame, and it had been like that ever since he had been there this last seven years. He maintained it was not cruelty, and if it was why did not the police veterinary say so when he examined the mare some months ago for sore shoulders. Jacobs said he did not see the horse go out, but admitted responsibility.

In reply to Mr. Tyler, the constable said he knew the horse was shod with peculiar shaped shoes, and that it walked on its toes. He thought the horse suffered from pain because it alternately rested its legs.

Mr. Byerley, F.R.C.V.S., said the mare was lame in both hind limbs from sprained and contracted tendons, and spavin, and was quite unfit for work.

Cross-examined: The lameness had existed for more than three months. It was not a case of "mechanical lameness" without pain. The lameness was partly mechanical. He was positive there was nothing the matter with the animal when he examined it in September.

For the defence, Prof. Woodruff, of the Royal Veterinary College, stated that he found the mare had two large spavins, one on each hock. The animal was in fair working condition, and had no indications of soreness. He noticed the heels of the hind feet did not come in contact with the ground, and on having the mare trotted found she was not going lame, except for the mechanical stiffness. He came to the conclusion that the spavins were years old, and as the inflammation had gone out there was no pain. The tendons of the leg were contracted. In his opinion the horse did not suffer pain and was fit for work.

Herbert Keeling Roberts, M.R.C.V.S., Bexley Heath, said the animal was suffering from enlarged spavins and slightly contracted tendons. There was no sign of pain, and the abnormalities were of old standing.

Ernest Charles Pilcher, 6 Isla Road, Plumstead, a blacksmith, said he had noticed that the animal was mechanically lame whenever he had shod it. The animal walked on its toes, and was shod with a "rolling" shoe.

Cousins said the horse had walked on its toes for seven years. The animal, which had two spavins for four years, had been in the same condition during the time he had driven it.

Jacobs also gave evidence.

Mr. Symmons said, in his opinion, the mare was suffering pain, but he was doubtful if the carman or the foreman were aware of it. The case would be dismissed.—*Kentish Independent*.

Imprisonment for Cruelty.

A bad case of cruelly ill-treating a horse came before Mr. G. H. Judd and other justices, at Brentford, on Wednesday, when Robert East, of 79, Osborne Road, South Acton, was summoned by the R.S.P.C.A. for having on divers dates cruelly ill-treated a horse by omitting to give it sufficient food, care, and attention.

P.C. 182X said that at 5.30 p.m. on January 28th he went with P.C. 163X to a field adjoining Gunnersbury Avenue, Ealing Common, and there saw a brown gelding pony, which was aged and apparently in a starved condition. He tried to lead the pony, but owing to weakness it fell down. The ground was very hard, owing to the sharp frost at the time, and there was no food or grass in the field. He informed Inspector Pleavin, of the R.S.P.C.A.

P.C. 163X corroborated, and added that the pony was nothing but a frame.

Inspector Pleavin, R.S.P.C.A., said that he went to the field and saw the pony standing against a fence. It was very old and in a poor, weak, and emaciated condition, with scarcely an ounce of flesh on its bones. It was unable to move, and was carried round to a shelter. Witness made inquiries to trace the owner, and saw his wife at Acton. She said the defendant had gone away for some days. She accompanied witness to the field, and consented to have the pony destroyed. When he returned, he found the pony had been removed about a hundred yards, and there were traces of its having been fed with hay. Subsequently defendant came to him and said things were bad with him, and he went away to try and make a bit, but gave the pony half a peck of corn before he went.

Mr. W. Hatton, veterinary surgeon, said he saw the carcass of the pony on January 29th, and made a post-mortem examination. He found a little food in the stomach, but the carcass was devoid of fat, even on the kidneys. It was also nearly bloodless. The condition of the pony, having regard to the weather, must have been extremely bad. Its coat had been cut, and he did not see how it could have kept any warmth in it. He understood the horse had been turned out since the first week in December last, and no doubt it had been getting worse since then.

The Chairman: In other words, it was starved.

Witness: Absolutely starved. A healthy horse would not have died so quickly.

Defendant said he had a fat pony and exchanged it for this one. First he kept it in a stable, and then, as it did not get on, turned it out, and that did not do it any good.

The Chairman said the Bench would be lenient, though they had the power to send defendant to prison for six months. If ever a man deserved punishment for neglecting a horse in such a disgraceful way, it was the defendant, who would have to go to prison for fourteen days with hard labour.

Royal Veterinary College.**A DEPUTATION TO GOVERNMENT.**

The President of the Board of Agriculture and Fisheries received a deputation on Monday, Feb. 25th, who asked for an increased grant from the State to assist the Royal Veterinary College. Mr. Runciman was accompanied by Lord Lucas, Sir T. Elliott, Mr. A. W. Anstruther, and Mr. Stewart Stockman. The deputation was introduced by Lord Middleton, President of the Royal Agricultural Society, and consisted of Mr. Harold Swithinbank, Mr. W. Huntin, F.R.C.V.S., Sir John M'Fadyean (Principal), and Mr. R. A. Powys (Secretary), representing the Royal Veterinary College; and the Hon. Cecil Parker, Sir R. Cooper, and Mr. Thomas McRoe, representing the Royal Agricultural Society.

Mr. Runciman and Lord Lucas, in reply, acknowledged the good work done by the College in the past and their desire to assist, as far as possible, the object of the deputation.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

The thirtieth annual meeting was held on Thursday, Feb. 15th, at "The George" Hotel, Grantham. The chair was occupied by the President, Mr. W. Grasby, M.R.C.V.S., of Daventry, and amongst those present were Messrs. F. L. Gooch, Stamford; G. Lockwood, Peterborough; T. A. Rudkin, F. Masterman, H. Sugden, Grantham; S. G. Masterman, Huntingdon; C. W. Townsend, Long Stanton, Cambs. (hon. sec. and treasurer).

The minutes were signed.

CORRESPONDENCE.

The Hon. Sec. read a letter from Prof. A. Gofton, of Edinburgh, with regard to affiliation with the National Veterinary Association, and it having been decided to take this step, Mr. F. L. Gooch and Mr. T. Rudkin, with the Hon. Sec., were appointed to represent the Lincolnshire Association on the Council of the N.V.A.

Letter from Mr. Garnet, of the National Veterinary Association, asking for individual support for the proposed International Veterinary Conference in England in 1914.

Mr. Gooch said that Sir John McFadyen had expressed the opinion, from his experience of International meetings, that it would cost £3,500, and it had been decided to apply to individual members, as well as to the District Association for subscriptions, members could spread their donations over three years. He (Mr. Gooch) would undertake to collect subscriptions, and send them on to Mr. Garnet, the Treasurer.

It was agreed that Mr. Gooch should draw up a circular, and that the Secretary should send same to members invoking their personal aid.

Letter from Mr. Faithfull Davies, of Hadleigh, Suffolk, with regard to the conference to be held in Paris in October next, in which the Meat Inspectors' Association is interested, by the Société de Pathologie Comparée.

Letters from the Royal Sanitary Institute, which has fixed its annual Congress at Scarborough from July 24th to August 3rd.

Letter from Mr. Shipley, of the Victoria Benevolent Fund, asking individual contributions. The Hon. Sec. remarking that the Association at present gave 2 guineas annually.

Mr. Gooch appealed for the sympathy of members in the matter. He was on the Council, and knew the need for the appeal, few, really, he said, knew how many deserving cases there were in the profession. He instanced the pitiable case of a widow over 70 years of age, living at Skegness, whose husband has died in a lunatic asylum. The Association were assisting her until she got her old age pension. Annual subscriptions, he said, were always deposited, the others invested.

It was decided to send the usual cheque of 2 guineas.

Mr. LANG, of Brocklesby, tendered his resignation as a member, and it was accepted.

The Secretary said Mr. Hoole, of Heckington, in sending his annual subscription, also expressed his wish to resign, but he had written him asking him to reconsider the matter. The question was left over to the next meeting, awaiting his answer.

Apologies for non-attendance were notified from Messrs. E. W. Parke, Willows, Prof. Hobday, H. C. Lalor, Prof. Penberthy, Hy. Howse, E. Wardrop, R. A. Searby, A. W. Mason, W. Hoole, T. B. Bindloss, S. G. Masterman, H. H. Truman, and R. C. Matthews.

Messrs. HY. LEACH, of Boston; R. C. MATTHEWS, of Heighington, Lincoln, and Mr. G. T. WILLOWS, Long Sutton, were balloted for as members, and duly elected.

Messrs. ERNEST WARDROP, Outwell; R. A. SEARBY, Ramsey; T. G. MOON, March, and DAVID COOPER, Saxilby, were nominated for membership by Mr. C. W. Townsend.

The Hon. Sec. said that he regretted that he had not been able to obtain a paper to be read that day. Mr. Lockwood had promised one, but, unfortunately, an attack of influenza had prevented him doing this. In its place, however, he had prepared for them a brief report of the Society's doings during the past year, which he thought might be interesting to not only those present but also to those members who had been unable to attend the other meetings of the Association held during the past year.

The Session 1911-1912 had, in his opinion, been a very favourable one, and he wished to take this opportunity of thanking the President for his valuable help and assistance, he knew that everything Mr. Grasby did for the Association was done willingly, and that he had spared nothing to make his Presidential year a success.

The members have a lot to thank Mr. Grasby for making the year such a successful one for their Association.

During the past year seven new members had been elected, and at the present meeting he had much pleasure in saying that he had the names of four more gentlemen wishing to join, so that by the next meeting he hoped to have fifty, if not more, names on the list of members. With such a number it is surprising we do not get better attendance at our meetings. He took this opportunity of asking those present to further assist him in obtaining more new members.

The following gentlemen have kindly read papers during the past year:—

Mr. A. W. Noel Pillers, "Notes of foot cases."

Mr. F. L. Gooch, "Some Instruments and their Uses."

Prof. F. Hobday, Demonstration, and paper upon Dr.

Williams' operation for roaring in horses.

I may here state that I shall be extremely grateful for promises of future papers from members.

In presenting the balance sheet for the year, he stated that the balance at Bank at commencement of year was £20 13s. 3d. Total subscriptions to end of December, 1911, amount to £19 10s. Expenditure for year was £16 19s. 4d., leaving a balance at bank of £23 3s. 11d.

Since he had made out balance sheet he had received nearly £12 for arrears and present year's subscriptions which made the present balance much bigger than at the same time last year.

Mr. Gooch proposed a hearty vote of thanks to Mr. Townsend for his assiduity, and in the course of his remarks said that 24 members of the Association did not live in Lincolnshire, but he thought they should have larger meetings. Would it be possible, he asked, to amalgamate with any neighbouring Association.

Mr. TOWNSEND said several veterinary surgeons wished to start one at Cambridge. In his district they say they are too far away to join the Eastern Counties and that the Lincoln V.M.A. meetings are held too far off for them to attend.

The PRESIDENT attributed the small attendance to apathy. A man who could find time to go hunting, if he had a soul at all, should afford three days a year for his Association.

Mr. LOCKWOOD seconded the vote of thanks, which carried with it the adoption of the report and balance sheet, the latter having been previously audited by Mr. Rudkin.

The PRESIDENT heartily supported the motion, for, he said, he had probably come in contact with the Secretary more than any other member. Mr. Townsend had been untiring in his work for the Association. He had not only tried to get members himself, but had written to him (the President) and others to get them.

It showed he had the interests of the Association at heart. His work had been done thoroughly, and he deserved the heartiest thanks of the meeting.

The resolution was carried unanimously.

ELECTION OF OFFICERS.

President.—Mr. Townsend proposed the name of Mr. H. H. TRUMAN, of March, as President for the ensuing year. If they elected him he was sure they would not be sorry. He had for years been a member of their Association, and was highly esteemed in the March district. He was a magistrate and Chairman of the Urban District Council, and he was sure he would do credit to the Association.

Mr. RUDKIN said he had great pleasure in seconding, as he had known Mr. Truman many years as a member of the Association.

The motion was carried with acclamation.

Vice-President.—Mr. W. W. GRASBY, the retiring President, was elected, Mr. G. B. Dickinson coming out of the list automatically.

Hon. Secretary.—The Chairman proposed the re-election of Mr. Townsend, and congratulated the incoming President on retaining the services of so excellent a man.

Mr. LOCKWOOD, in seconding, said it spoke volumes for Mr. Townsend's grit that he put in so much energy when they got such a small meeting as that.

Mr. TOWNSEND having been duly re-elected, said he fully appreciated the honour done him. He apologised for the small attendance that day, and said it was neither his nor the President's fault. It was a pleasure to do anything for the Association, and while he was

Secretary he would continue to do all he could for the Association and for its members. (App.)

ENLARGING THE DISTRICT.

A discussion then ensued as to changing the place of the meeting once a year, it being felt that Cambridge might be tried every other year instead of Lincoln. It was pointed out that a similar experiment had been tried, and meetings held with no greater success at Louth, Market Rasen, and Grimsby, owing to the railway facilities being so inconvenient in such a large district as the Association covers. It was pointed out that March was a convenient centre, with express trains from Lincoln, and Mr. Townsend said he could ensure a good attendance from the Cambridge side if a meeting was held there.

Eventually Mr. Gooch proposed, Mr. Lockwood seconded, Mr. Rudkin supported, and it was carried that the summer meeting on the second Thursday in June, which is usually held at Peterborough, should be held at March, subject to the President's (Mr. H. H. Truman) consent.

Mr. GOOCH gave notice that he would move at that meeting that the title of the Association should be changed to that of the "Lincolnshire and District Veterinary Medical Association."

Some interesting clinical cases were discussed, and some good specimens exhibited by Mr. Gooch, Mr. Rudkin, and Mr. Grasby, who, after a capital repast, was heartily thanked for the excellent way in which he had carried out the Presidential office during the year.

C. W. TOWNSEND, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended Mar. 2	23		23				9	17	113	218	8	49	545
Corresponding week in	1911	21	23	39			3	9			16	34	299
	1910		32				7	16			9	15	160
	1909		22	23			10	41			18	25	244
Total for 9 weeks, 1912	229		251				32	62	1201	2921	121	532	6856
Corresponding period in	1911	199	225	332			42	164			250	307	3369
	1910		274				61	185			244	203	1539
	1909		252	340			96	260			312	263	2060

* Counties affected, animals attacked: Essex 1, London 10, Middlesex 5, City of Edinburgh 1.

Board of Agriculture and Fisheries, Mar. 5, 1912.

Outbreaks

IRELAND.	Week ended Mar. 2	...	...	...	...	...	...	3	9	6	22
Corresponding Week in	1911	...	...	...	...	...	...	1	10	3	22
	1910	...	2	...	...	...	...	...	23	...	...
	1909	...	...	...	...	...	...	1	23	2	1
Total for 9 weeks, 1912	...	1	1	...	...	...	...	23	167	27	214
Corresponding period in	1911	...	3	3	...	...	...	22	169	26	481
	1910	...	4	6	...	...	...	17	191	6	215
	1909	...	1	1	...	...	...	22	165	5	13

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Mar. 4, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

PARLIAMENTARY.

NEW BILLS.

In the House of Commons, on Wednesday, Feb. 28.

* * *

Dr. CHAPPLE (Stirlingshire, Min.)—Bill to consolidate and amend enactments relating to animals and to knackers, and to make further provision with respect thereto.

Tuesday, March 5.

Mr. BARNSTON (Cheshire, Eddisbury, Opp.)—Bill to provide for the marking of all imported meat and agricultural produce, and for the registration of dealers in such meat.

SUPPLY—ARMY ESTIMATES.

Col. SEELY (Derby, Ilkeston), in moving that the Speaker do leave the Chair for the House to go into Committee on the Army Estimates, said although he could not hope to rival his noble friend the Secretary for War in fulness of detail, he would follow his example in avoiding as far as possible bringing the affairs of the Army into what might be called party conflict.

* * *

TRANSPORT AND HORSES.

His report in regard to transport and horses was very simple. The Regular Army required 44,000 horses on mobilization, in addition to those which they already had on the peace establishment. The number at one time was 52,000, but they had saved 8,000 by adopting mechanical transport. They required 10,000 gun horses, and they knew from the census and classification which had been carried out by adjutants and remount officers that that number and much more was available. There was, however, one real difficulty. There was an ample supply of heavy draught horses, and there were just enough or rather more than just enough light horses for the purposes for which they were required on mobilization, but while there were enough horses for the guns, there did not appear to be enough in hard training. The reason for that was the disappearance of the omnibus horse. That class of horse had provided them with a vast reserve of the very kind of horse which they required. Horses would be required for the guns for many years yet, and steps would have to be taken to get over the present difficulty. He would be glad to hear any suggestions which the right hon. member for Dover might make. The classification of the 44,000 for the Regular Army was not yet as complete as they desired to make it. Arrangements would be made for the horses to be brought to the points where they would be required and as to the purchase of them. The full scheme would be completed in a very short time. The 86,000 horses which would be required for the Territorial Army would be available, but there also they would have difficulty in regard to gun horses. Arrangements were being made in regard to motor transport, and the whole scheme for mechanical transport was receiving attention.

THE ROYAL SANITARY INSTITUTE CONGRESS.

His Royal Highness Prince Arthur of Connaught, K.G., has consented to become Patron of the 27th Congress of the Royal Sanitary Institute to be held at York in July next.

Personal.

STORRAR.—On the 25th Feb. at Rowes Cottage, Great Saughall, Lizzy, wife of James Storrar, in her 51st year.

ARMY VETERINARY SERVICE.

The undermentioned officers embarked in Transport "Rohilla" on 29th February, for a tour of service in India: Captains W. E. Schofield, J. Nicholas.

Maj. W. D. Smith has been transferred from Bulford to the Curragh as Acting Administrative Veterinary Officer, and Major E. E. Martin from Woolwich to Bulford as Officer Commanding the Sections, Army Veterinary Corps, at that station.

OBITUARY.

FREDERIC DALES, M.R.C.V.S., Gainsborough, Lincs.
Graduated, N. Edin: May, 1889.

Mr. Dales died on Feb. 23rd, from acute phthisis, Aged 43 years.

JOHN HEPTON, M.R.C.V.S., Sherburn, Yorks.
Edin: April, 1890

Death occurred on Feb. 25, at the age of 68 years, from apoplexy, ensuing on diabetes mellitus.

CORRESPONDENCE.

POLICE COURT EXPERT EVIDENCE.

Sir,
In your issue of Feb. 24th the Central Association had this question up for discussion, and they then made a recommendation and appointed a committee of their own members to go as a deputation to the Chief Commissioner of Police for London.

As the question is one affecting the whole country and all our members, it seems that the proper body to deal with the subject would be the Royal College.

It would also appear that the College would, after discussion, invite the R.S.P.C.A. and kindred societies to a round table talk on the question, and then proceed to get, if possible, an interview with the Home Secretary. This is the proper one to go to, as being the head for the whole country.

The points to be put before the Home Secretary are in my judgement as follows:—

(1) Cruelty in the "greenyards" or "pounds" permitted by the police in not allowing the animal to be properly tended and fed, and in the case of the horse groomed and bedded, and in those cases where it is possible that foot disease is present the retention of the shoe.

(2) A veterinary surgeon habitually appearing in the same Court always for the prosecution. (A diplomat will be required to put this question very carefully. It is treading on thin ice. It must be put for the sake of the profession at large. All that is wanted is that all professional opinion will be given without any regard to conviction or dismissal. A veterinary witness has nothing to do with the result of the trial. He is present to speak to the condition of an animal).

(3) The appointing of veterinary referees to assist the magistrate when evidence is given of an expert kind, no matter by whom. This is the case with doctors and also in nautical cases.

(4) The stopping of an inspection by the magistrate. By producing the animal it is assumed that the magistrate has expert knowledge. He is not a magistrate, because he is an expert in any business or profession. He is there because he is a lawyer, or, if one of the great unpaid, because he has plenty of money or has given political services. Hunting's squealing mare admirably illustrates the damned absurdity of an inspection by the magistrate. In the country the horsey magistrate is still more opinionated than even Plowden and that is saying a lot.

This is a question which will be found to affect us very closely, and more so since the new act is in force. It is one which we must tackle because of internal discipline, as well as our good relations with the outside public. I hope that your columns will contain many expressions from our members, and that the Royal College will see their way to take speedy action.—Yours truly,

ST. ELLIW.

CRUELTY CASES—POLICE OR R.S.P.C.A.

Sir,

I enclose a report printed in *The Middlesex County Times* of a prosecution for cruelty. The circumstance to which I desire to call particular attention is that two policemen found what was considered a serious case of cruelty, and instead of proceeding in the ordinary way, they informed an R.S.P.C.A. inspector.

In this case wherein does the usefulness of R.S.P.C.A. lie? Two policemen and a veterinary surgeon are surely capable of proving a case, and the question which presents itself to one mind is—does the R.S.P.C.A. take the credit for a case of this sort, when the credit is really due to the police?—Yours faithfully,

Feb. 24.

"ONLOOKER."

[The report of this case appears on p. 576.]

R.S.P.C.A. INSPECTORS IN COURT.

Sir,

I enclose two cuttings from a local paper giving accounts of two cruelty cases. In the one we are told that Inspectors of the R.S.P.C.A. are examined as to ability by a veterinary surgeon before being appointed, and that in consequence their word should in all cases be accepted, and that before that of a properly qualified veterinary surgeon. (A nice piece of bounce, indeed). And in the second case we see the low, mean style of cross examination an inspector sometimes adopts in attempting to discredit a professional witness. A conviction must be obtained at any cost in every case, or no good can possibly accrue. Persistent exaggeration and untrue suggestions are methods frequently employed. The defendant in a case of cruelty is frequently himself treated cruelly, but what odds when you are out for convictions if your fellow worm goes under, or if pain is allowed to continue as in the "greenyard" cases recently mentioned.

Defendants in cruelty cases have rights as well as defendants in other fields, and to regard all witnesses for the defence in these cases as hostile, perverters of the truth, or as being actuated by malice, or other sordid motives is monstrous.

I recently heard of an inspector who said he was sure a certain horse was in pain because in taking a load up a hill the animal took a zigzag course. He probably had never ridden a bicycle up an incline.—Yours truly,

F.R.C.V.S.

THE BENCH AND THE R.S.P.C.A.

At Columb Petty Sessions, before Mr. A. C. P. Williams (in the Chair), Col. Buchanan, Col. E. Gully Bennett, Col. Prideaux-Brune, Capt. Vyvyan, Messrs. C. E. Cardew, W. Phillips, H. J. Rowse, J. Vivian, W. H. L. Shackell, W. Harvey Wells:

The Chairman said the Bench were strongly of opinion that in cases of cruelty the evidence should be substantiated by a veterinary surgeon.

Inspector Waters: Then authority is taken from the Society and its officers. It would rather tie our hands.

The Chairman: We want independent veterinary evidence.

Inspector Waters: That means that you will not convict in cases without that evidence.

The Chairman: Yes.

Capt. Vyvyan and Mr. C. E. Cardew interposed that they did not agree to this.

The Clerk said the Bench meant that in such cases where it was desirable veterinary evidence should be brought.

Inspector Waters: But you leave it at our discretion.

Mr. H. J. Rowse said they did not mean in the cases where the evidence was plain.

Inspector Waters replied that they never knew how a man would plead until he came to Court. The inspectors were not appointed unless they could satisfy a veterinary surgeon as to their knowledge. In dozens of Courts the training of the inspectors was recognised, and their word was taken.

The Chairman said he was sorry he inferred that this was the wish of all the Bench, but he believed they all wished for some substantive evidence in these cases.

Capt. Vyvyan: We have always been ready to accept the evidence of the Inspector without the additional evidence of a veterinary surgeon.

The Chairman: Not always.

Capt. Vyvyan: The defendants have always the option of having in a veterinary if they wish to.

CRUELTY CHARGE DISMISSED.

At the East Kerrier Petty Sessions, on Wednesday, Feb. 28th, before Messrs. E. B. Beauchamp, J. D. Enys, J. S. Ford, W. F. Tremayne, and W. L. Fox, Frank Rowe, carter, of Ponsanooth, was charged with working a mare in an unfit state at St. Gluvias on February 17th, and John Martin, farmer, was charged with causing the animal to be worked.—Mr. J. G. Powell appeared for the defence.—Inspector Waters said he saw Rowe in charge of a waggon and two horses. The bay mare had two old raw wounds under the saddle, and there was blood and matter on the pad under the saddle. Rowe said he had told Mr. Martin that the mare had a bunch upon her back and asked if he should work her. Mr. Martin told him to try her in the shafts that day. Mr. Martin said the pad must have come from off another horse, and that the horse was put into the shafts because it had kicked someone the day before.—P. Bunney corroborated, saying he considered the wounds had been there for some time.

Martin said the horse was sound when it went out in the morning, and the skin was not broken. He had two other horses in the stable which he could have used. There was a small blister about the size of a pin's head on the mare's back the night before. The roads were bad, and the work of the next day caused two small wounds about the size of halfpennies.

Rowe said it was their usual practice to work the horses with pads.

Edwin Richard Smythe, veterinary surgeon, said that he inspected the animal a week afterwards. He found two abrasions, not old wounds, because there was no depth. He had treated Mr. Martin's horses for 25 years, and he was the last man who would cause cruelty to them.

Inspector Waters: They are good clients of yours?—Yes.

And your sympathies would be with them?—Certainly not.

Is it a fact that you have made observations that you would oppose me in all cases in Falmouth or Penryn?—No. I have supported you.

The Bench dismissed the case.—*The Royal Cornwall Gazette.*

MEAT INSPECTOR IN LONDON FOR AUSTRALIA.

Sir,

In this week's *Veterinary Record* I notice a paragraph under the heading "Mr. McPhail appreciated," in which it is stated that Mr. McPhail was one of two candidates selected for an appointment in London under the Australian Commonwealth. Such is not the case for, as a matter of fact, out of some seventy applicants not two but six were selected including Mr. McPhail and myself. But the post was also advertised in the Colonies at the same time as in this country, and the deciding authority—namely, the Australian Government at Melbourne—finally selected and appointed a Melbourne gentleman.—Yours faithfully,

THOMAS PARKER, F.R.C.V.S.

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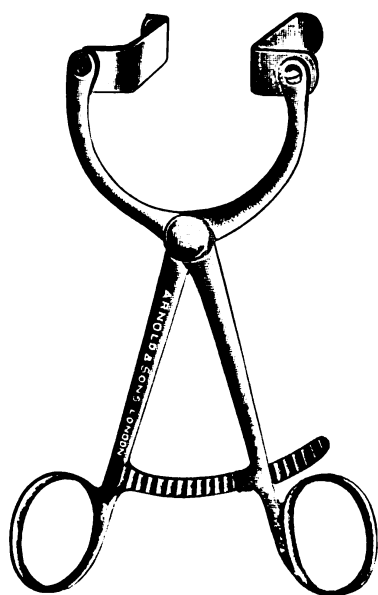
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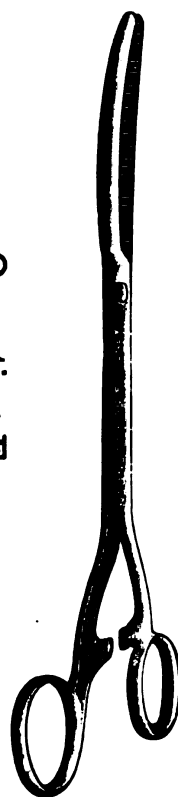


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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1236.

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A USEFUL PAPER.

This week we print an abstract of a lecture by Mr. Hugh Begg, which is noteworthy in more than one respect. Written for the enlightenment of the public and not of the profession, it contains nothing new to veterinary surgeons. But it was delivered before a representative agricultural audience, and has been widely circulated in the Scottish Press; and therefore it should have considerable educational effect.

It will do much to support the system of veterinary examination at horse shows. That system is such a recent introduction in Scotland that there is still not a little prejudice against it, which the lecture will help to remove. It should also tend to bring about a better appreciation of the veterinary surgeon's position amongst stockowners, and this not only in questions of soundness. It will help stockowners to realise the difficulties of diagnosis in a wider sense.

It is not often that a veterinary surgeon addressing a popular audience speaks so frankly of the difficulties and uncertainties of diagnosis as Mr. Begg did. To do so was well; to cite examples, explaining the cause of the difficulties, was better. Popular lectures on these lines show stockowners that a veterinary surgeon can see much further into a case than the untrained man. They show also that veterinary knowledge has its limitations, that veterinary judgment is not infallible, and that there are many cases in our work which will always give rise to honest divergence of opinion. In admitting and illustrating this, Mr. Begg set a good example to the profession—not only to those who appear upon platforms, but to all who are engaged in practice.

We have often written of the evils of undue dogmatism on the part of veterinary surgeons. We now suggest one effect it may have on the stockowner. Owners see veterinary surgeons who never own themselves in doubt, and never admit that an opinion contrary to their own can be worthy of regard. Owners know, also, how frequently and how widely our opinions differ. Is it surprising that this should incline some owners to think lightly of our profession? We think not; and the blame lies, not with the ignorant owner, but with the too dogmatic veterinary surgeon. If we would deal frankly with our clients, and help them to understand something of the difficulties and complexities surrounding examination for soundness and the most everyday work of diagnosis, we should find them less apt to draw unfavourable conclusions from our numerous and unavoidable differences of opinion.

THE "NEW" METHOD OF ADMINISTERING CHLOROFORM.

Attention has recently been called to a "new" method of administering chloroform to human patients, namely by passing chloroform vapour through warm water, and like most new methods has been received somewhat sceptically. It would seem, however, that its use would prove most serviceable in the case of the smaller domesticated animals. It has been said that the washing of the chloroform vapour in warm water lessened the shock of its administration on account of the consequent rise in temperature, and also removed the "toxic principles," hence its lessened toxicity. That the increased temperature lessens shock there can be no question, but with regard to the "toxic principles" one has reason to doubt the accuracy of the statement, since chloroform, in the process of manufacture from alcohol and bleaching powder, distils once with a quantity of warm water, and moreover it is commonly washed a second time to remove traces of alcohol which are present. It would seem, however, that the comparatively large amount of moisture present in the vapour after its passage through warm water, accounts to a great extent for its lessened toxicity. In some experiments which I have recently carried out it was found that 5.5 litres of air, carried by means of an aspirator through chloroform, then warm water (a little below boiling point) and finally through two weighed U tubes containing Calcium Chloride, carried over 9.6 grammes of Chloroform, and the increase in weight in the two U tubes, due to the water absorbed from the vapour was .97 grammes, whereas when air alone was passed through similar U tubes the increase in weight due to the atmospheric moisture in 5.5 litres of air was .0825 grammes, which gives an increase of .8875 grammes. Further, when air is pumped through in the ordinary manner the quantity of moisture is exactly double the above.

That the good effects of this method are due to the water seems evident, for when such vapour is administered after being passed through Calcium chloride tubes, and hence dried, although washed previously in warm water, and still warm, no difference could be noticed between the effect of this vapour and that administered without previous washing.

The advantages of the method are that one can administer chloroform to young animals or animals *in extremis* with far greater safety than by the usual method, and further the patients "go under" more quickly. In support of this statement I may

say that a fox-terrier puppy, four months old "went under" in seven minutes, remained anaesthetised for 58 minutes, and had completely recovered from the effects in ten minutes; moreover, during this time the puppy received 6.5 drachms of chloroform. Again a fox-terrier dog, nine years old, had been injured by another dog, one eye being destroyed and the other seriously injured, as a result of which he was unable to find his way out of a large garden for six days. During this time he had had but little food, if any. It was found necessary to remove the putrid eye immediately. He was chloroformed in the new way, was completely anaesthetised in four minutes, and remained so for 20 minutes, while the eye was removed and the frontal sinus curetted, pus having formed there as a result of a perforation by a tooth of the other dog. He recovered sufficiently to be placed in a kennel in 15 minutes, and continued to do well.

If space permitted I could quote numerous other instances where this method of administering chloroform has been most useful, while the results of the ordinary method would have been distinctly doubtful.

J. BASIL BUXTON, M.R.C.V.S., D.V.H.
Royal (Dick) Vet. Coll.

ABSTRACTS FROM FOREIGN JOURNALS.

THE ASCARIS MEGALOCEPHALA.

Wilhelm Greim, of Hof, after a study of this parasite has arrived at the following conclusions:—

(1) The presence of *Ascaris megaloccephala* may induce symptoms of disease in the horse.

(2) The ascaris irritates the intestinal mucous membrane by its movements.

(3) By the aid of its lip-apparatus, it scratches the mucous membrane and produces small wounds.

(4) Such lesions, when numerous and situated in close proximity to one another, may lead to inflammation, ulceration, and necrotic destruction of small portions of the mucous membrane.

(5) By its individual strength the ascaris cannot perforate the intestine.

(6) The parasites live free in the lumen of the intestine; and, contrary to the views repeatedly expressed hitherto, they are not able to suck from or to hook on to the intestinal mucous membrane.

(7) The *ascaris* contains toxin in its body, and disperses it into its surroundings.

(8) The effects of the toxin consist of local irritation, alteration of the nervous system, and toxic action upon the heart and blood.

(9) An affection of the kidneys in connection with the excretion of the toxin cannot be demonstrated.

(10) The pathogenic importance of the parasite renders it necessary to administer anthelmintics to the horses infected with it.—(*Berliner Tier. Woch.*)

TUBERCULOSIS IN GOATS.

Hortha, who has been studying this subject at the Hygienic Institute of the Berlin Veterinary

School, says that caprine tuberculosis is more common than is generally believed. Its percentage, on the average, amounts to 0.72 in Germany and 0.63 in Prussia. The highest percentage obtained hitherto is one of 20.73.

In respect of frequency, tuberculosis of the goat takes the third place, coming immediately after that of the ox and pig. Tuberculosis is more frequent in the goat than in the sheep. In Germany, caprine tuberculosis is generally found proportional to the bovine disease.

The lesions differ notably in their anatomico-pathological aspect from those of tuberculosis in other domestic animals. The tubercles of the goat resemble the lesions of echinococcosis—a smooth-walled capsule with fairly consistent contents, often calcified, and grey, greyish-white, or greyish-green in colour. These contents can be enucleated *in toto*.

Histologically, these tubercles show a central detritus, with peripheral giant, round, and epithelioid cells. The external boundary is constituted by a relatively large layer of fusiform cells.

The tubercle bacillus cannot be seen in either scrapings or sections, even in the case of recent lesions. On the other hand, it is regularly found in guinea-pigs which have been inoculated with the tuberculous material.

In all the author's cases the bacillus recovered has been of the bovine type.—(*Annales de Méd. Vét.*)

HUMAN ANTHRAX IN GERMANY.

In the year 1910, 287 cases of human anthrax, 9 of them in children under 14 years old, occurred in Germany. Of the patients, 257 were males and 30 females. There were 39 deaths, made up of 32 men, 6 women, and 1 child.

In 142 cases, (or 49½ per cent.) the infection proceeded from contact with living animals affected with anthrax, or animals dead of anthrax, or their flesh. Products of animal origin used in trades or manufactures led to infection in 135 cases. In one case, working with anthrax bacilli was the cause. In the remaining nine cases, the cause could not be ascertained.

The agricultural industry supplied 121 cases with 12 deaths; 92 cases with 16 deaths occurred in tanneries; and 11 cases with 1 death in horse-hair spinning establishments.—(*Berliner Tier. Woch.*)

THE DISSEMINATION AND ACTION OF THE PENTASTOMUM TENIODES.

Prof. Stefan von Ratz, of Budapest, discusses (*Allatorrosi Lapok*) this question. The developed examples of the *Pentastomum teniodes*, or, more correctly of the *Linguatula chinensis*, live in the nasal cavities of the dog, wolf, and fox; but they are also found in the same position in herbivora, and even in man.

The *larvæ* occur in the thoracic and abdominal viscera, for the most part in the liver, lungs, and mesenteric lymphatic glands, and are often found free in the pleural and peritoneal cavities of the hare, guinea-pig, goat, sheep, horse, ox, pig, deer, cat, etc., in addition to those of man.

Among the dogs subjected to post mortem examination at the Pathologico-Anatomical Institute of the Royal Veterinary High School of Hungary, the parasites were not infrequent. Usually they were found singly, and the highest number found in one dog was five.

The larvæ are not rare in guinea-pigs, hares, rabbits, deer, goats, sheep, oxen, and buffaloes. In many animals only one or two specimens are found, but the author found several hundred in one goat.

The ripe ova pass out from the host's nose on to plants, and with them into the stomach of (usually) herbivora. Here the embryos, and later the larvæ, penetrate the intestinal wall into the blood and lymph vessels, and pass in these to the different organs, where the larva (formerly known as *Linguatula serrata* or *Pentastomum denticulatum*) develops further. Afterwards it becomes encysted or wanders farther into the serous cavities.

The author's results do not support the view formerly held of the active wanderings of the *Linguatula* in the bronchi.

Infection in carnivora occurs as follows: Carnivorous animals take up the larvæ of the parasite with the lungs, liver, etc., which they devour. The larvæ wander from the stomach through the œsophagus into the mouth, and thence into the nasal cavity. Moreover, when infected food is swallowed, single free larvæ may adhere to the palate and from there migrate into the nasal cavity. Finally, the author has experimentally proved that animals may acquire young *linguatulae* in their nostrils by smelling at organs containing larvæ.

When in the nasal cavities the parasite causes bleeding. More rarely it occasions violent inflammation and nervous symptoms resembling those of rabies.—(*Berliner Tier. Woch.*).

W. R. C.

UN SOUNDNESS IN HORSES, WITH REMARKS ON THE ATTITUDE OF THE VETERINARY PROFESSION.*

By Mr. HUGH BEGG, M.R.C.V.S.

My greatest difficulty has been to determine which of the many aspects of the theme would be most suitable for consideration here. I would gladly have been relieved of the responsibility of making a choice.

To the horse-breeder or buyer, as well as the veterinary surgeon, the legal aspect of this topic, and the great question of the heredity of many forms of unsoundness, are of such vital importance that either, if dealt with in detail, would furnish more material than we could handle in the time at our disposal. And, in view of the fact that in occasional lawsuits, eminent, experienced, and trusted veterinarians are seen to give apparently contradictory opinions, I am not sure that a plebiscite of my professional brethren would have given me much encouragement to appear before you as I now do. Sleeping dogs may wake up, and the Philistines may bring the status and attitude of the profession under review, but I cannot range myself with those who are timorous for the veterinary profession in this matter. I prefer to deal openly with this very phase of the question, and and run the phantom risk of lowering our professional

dignity, in the hope that this may help to obviate on your part the harbouring of any ignorant conception of our capabilities, for I cannot believe that any portion of our repute is of material or permanent value to us, individually or collectively, that is based on any false premise.

VALUE OF VETERINARY EXPERIENCE.

My estimate of the great value of the earnest veterinary surgeon to owners and breeders of horses is already formed, and I cannot bring myself to believe that your regard or demand for his services will be lessened by a full knowledge of the limits within which he is likely to agree with his *confirères* and beyond which there is at times ample room for conscientious difference of opinion. I need not enumerate and describe the many unsoundnesses in horses in regard to the presence or value of which all veterinary surgeons are likely to agree more or less closely, but I wish you to remember that these are so much in the majority that horse buyers may rest assured that the opinion of one experienced veterinary surgeon is almost sure to be corroborated by another in 95 per cent. of all cases that come within the sphere of commercial practice, provided facilities for examination are adequate. It will be generally admitted that the members of the veterinary profession have ever been found ready to give freely their services and advice to those societies whose propaganda aims at the perfecting of our breeds of horses, and here I may incidentally remark that we are proud to be associated with the members of horse societies in this estimable work. There is, unfortunately, in the mind of a certain section of the public (the quasi-horsey) an idea that the veterinary profession is unstable in its opinions, that we readily differ in matters of unsoundness without apparent cause, and that in proportion as we differ we don't know our business. Much of this is no doubt due to the extreme publicity that is given to every case of horse litigation. Providers of copy know that, apart from any conflict of evidence that may appear, the record of a horse case interests the public almost as much as the proceedings of the Divorce Courts. Men who have never even handed a feed of oats to a horse find, in discussing the matter in the train, the office, or the restaurant, an opportunity for sandwiching in some embellished account of how, on a certain occasion, in some heroic way, their horsemanship (?) averted an appalling disaster. It has often struck me how prone many men, otherwise estimable, are to pose as horsemen, and deliberately contrive to leave a false impression on their hearers.

THE OPINIONS OF THE BENCH.

Another factor in the case is the often uncalled for remarks on veterinary evidence of many judges who, having no veterinary knowledge, can neither estimate the value of the evidence nor discern the difficulty of the problem which the veterinary surgeons have had to determine. They ought to remember that glass houses are not the peculiar property of veterinary surgeons, and that the establishment of the different Appeal Courts in the land is no testimonial to the unanimity of legal minds on their professional problems. I am not here, however, to blackguard any profession or calling, or to cast any doubt on the infinite wisdom of the Creator who gave to mankind finite minds only. But, you may ask, why is it that veterinary surgeons differ at all as to the soundness or unsoundness of an animal? With the horse before them, can these questions not be determined as confidently as you would decide whether a pane of glass be cracked? My answer is emphatically no! though, as I have already stated, almost all the difficulty can be settled at once beyond dispute. We have to remember that the examination of horses as to soundness is a highly individual affair, and that the veterinary surgeon, being only human (though the pro-

* Abstract of lecture delivered before the Glasgow and West of Scotland Agricultural Discussion Society.

fession is divine), is bound to confess that the subject must, in many of its phases, remain for ever an inexact science, affording, as it does, a wide field for disagreement, albeit the difference very often is one of degree only.

UNIFORMITY OF OPINION.

Many attempts have been made by our associations to draw up a set of rules to guide us collectively in giving opinions as to the soundness of horses. But, inasmuch as many of the problems are incapable of settlement by adamant rules, these efforts have proved more or less abortive on every occasion. But some good has resulted, and we can confidently assert that to-day the opinions of the profession are more cohesive on many points than was the case even ten years ago. Whether the debatable ground will be much further curtailed I cannot say—no doubt it will—but you may depend we will leave no stone unturned that is likely to reveal a more perfect method of diagnosis. That real difficulties exist the records of many lawsuits abundantly testify, and, in seeking to deal with this question in a general way, I shall trust you not to construe my remarks as any attempt to suggest wherein the truth lay in any given case. My objective is to essay such a demonstration of the problem as may cause you to ponder before arriving at an uncharitable conclusion. I have no doubt many of you have remarked what is unquestionably true, that horses presenting any slight abnormality or irregularity in the structure of the limbs are more likely to be rejected by the young than by the experienced practitioner. Men of fifty or sixty years of age will readily confess that many horses which they condemned twenty or thirty years ago would, if examined by them to-day, get a certificate of soundness. In his anxiety to err on the safe side, the young man is apt to reject a horse for trivial matters, while the natural effect of experience is to broaden a man's views, and make him more tolerant of many conditions of bones and joints which do not conform to his preconceived ideas of what constituted a normal limb, and conversely, it is equally true that as a man gathers experience he becomes more and more careful to detect the slightest sign of those hereditary and progressive nervous diseases that are but too common in the high quality animal of to-day. But no matter what the extent of our practical experience may be, every examination presents its own difficulties to the examiner, and yields much room for thought, for he has to be as careful not to reject a sound as he should be not to pass an unsound horse, and it is my experience, generally speaking, that more sound horses are condemned for imaginary diseases than are unsound ones passed as sound. I need not tell you that, while any qualified veterinary surgeon may be expected to advise satisfactorily in *re* the soundness of any breed of horse, it is the case that we all tend to specialise, more or less, in the classes or breeds of animals that predominate in the district where we are located. We simultaneously become more adept in the detection of abnormalities specially prone to impair their utility, and more tolerant of many defects which, if occurring in a different purpose animal, would be of serious import.

THE LIGHT-LEGGED BREEDS.

No doubt the man whose experience is confined to the lighter breed has a difficulty in accepting as from disease the well-developed wrists of some Shire and Clydesdale horses. Per contra, and probably to a lesser extent, men accustomed to examine the heavier breeds find some trouble in deciding questions of soundness in Hunters. Veterinary surgeons naturally frame their attitude to their experience, and it is because experiences differ that we find the most reputable practitioners holding contrary opinions in certain cases. They are bound to give in Court a conscientious account of their views,

unbiased by the knowledge that there will be produced in the case evidence of equally experienced men who are at variance with them. And probably, since it is the rule for men to differ in every walk of life, it is not a bad thing that it takes more than one type of mind to make up the veterinary world.

THE YOUNG VET. v. THE OLD.

No doubt it is true of some veterinary surgeons, as of people in other walks in life, that their motto is: "First get on, then get honour, and, finally, get honest." If it perplexes you that a new graduate should reject a horse that may pass muster with an older practitioner, let us consider for a moment his recent environment. You will readily believe that in order to be able to comprehend or define disease, he must first of all understand the problem of health, and so, during his collegiate course, he is primarily taught the normal structure and functions of every part of the animal economy. Herein lies a considerable part of his advantage over the horsey layman. When certified proficient in this branch, he learns next all about the diseases that affect the various structures. Concurrently, he is taught the practical work of examining a considerable variety of horses as to soundness. To the performance of this duty he carries in his mind's eye that picture of the perfectly normal structure which, as a hearer and observer, his individuality has conceived, and even here the personal equation obtrudes itself, though not so glaringly as obtains occasionally in the matter of real or apparent abnormality of structure. As he passes each part of the frame under review, paying equal regard to structure and function, he has need for a clear head, an eagle's eye, and a lady's hand, for he is expected to observe and take note of everything unusual, and if he fails to remark the slightest unsoundness, he is liable to lose marks. The anxiety to be thorough causes him in the first few years of his professional career to "crab" horses which his clients had set their hearts on, and it is only when he finds that several of these animals have subsequently been recommended by more experienced practitioners, with the best results, that the full truth and wisdom of his teacher's apparent inconsistency dawn on him with conviction. When we attempt to unravel the seeming mystery of experienced men differing in matters of soundness, we discern various factors operating according to the nature of the point at issue. Under the head "Existence or Non-existence of Defects," if we exclude "whistling" and "spavin" in light foals, "ringbone" and "sidebone" in heavy breeds, and "shivering" and "stringhalt" in both, there remain few points in which we are likely to oppose each other. Disputes as to shivering, stringhalt, and a few lamenesses are almost invariably due to the fact that these are in many instances intermittent in character, so that a man may conscientiously pass to-day the animal which he himself or another would condemn without hesitation to-morrow. This feature of the early stages of these defects demonstrates how utterly inadequate are the facilities afforded for this important veterinary duty in the saleyard, the fair, or the showyard premises. We have repeatedly, when unable to make an animal reproduce what seemed a positive suspicion of nervous trouble, had to keep it on our premises for some days before we could definitely decide. Important as this matter is in valuable animals of any breed, it is momentous in the case of young, high-quality Clydesdales intended for stud purposes, and I am sure many of you breeders can recall your feelings of disappointment when one morning your discovery of the first evidence of the insidious hereditary taint blasted the cherished prospects you held out for one of your hopefuls. To those of you who have had this unfortunate experience, I commit the task of outlining, if you have a mind, the diplomacy that is likely to succeed in excusing the absence of the favourite from the show.

yard—how the progressive monster, sometimes eluding your most alert vision for a day or two, seemed all the more evident when it did reappear, and if you care to supply statistics indicating the period of time that elapsed before the defect was so pronounced as to be always detectable, you will materially confirm or add to our knowledge of shivering and stringhalt.

NERVOUS DISEASES.

It may be due to my ignorance, but I confess that I have often had the greatest difficulty in differentiating in overgrown young animals between shivering and awkwardness in backing, and between peculiarity of action and lameness. Particularly worrying to me have been three cases in Hackneys and twice as many in two-year-old Clydesdales. In all of these one could discern, in the walk only, either on the straight or in the first effort to make a turning movement, a very occasional though scarcely appreciable abduction of one hind limb, causing the foot to describe an arc of a circle as the step was taken. In none of these cases could anything abnormal be detected in the trot or in turning when the animal was on the *qui vive*. Probably you would have had no difficulty in deciding that each of these animals was the victim of incipient stringhalt or shivering, the want of co-ordination in muscular movement being necessarily due to an exaggerated or impaired nervous impulse. If so, the subsequent history would have proved you to be right in three, but wrong in at least four cases. In these latter, the awkward peculiarity of gait was undoubtedly due to a very slight displacement of the patella (the small bone in front of the stifle), causing an instantaneous difficulty in the flexion of that joint, with the result that the step was performed with a somewhat jerky outward swing of the limb. You are doubtless aware that in young animals the features of the bones are incomplete—the ridges and grooves that make in the mature animal a safe and firm joint, capable of giving straight flexion under all conditions, are not fully developed. And when we consider that this small bone is not held in its position entirely by firm ligaments, but is much indebted to the muscles attached to it above, we need not wonder that in growing animals its position, under certain circumstances, is sufficiently insecure to cause an awkwardness in gait that simulates almost exactly the first stage of stringhalt or shivering. These are the cases that kill dogmatism, and breed caution and charity in the mind of the practitioner. And when we come to a consideration of spavin and ringbone we find that in an occasional case it is extremely difficult to say what is soundness or unsoundness, provided the animal is moving sound and has free and full action of the joints. Conditions the result of disease in one animal so closely simulate what is but a desirable development of the bones in another, and *vice versa*, that it is not to be wondered at that men arrive at different conclusions, and that no amount of discussion can settle the matter.

RINGBONE, SPAVIN, AND SIDEBONE.

The starting point at which to condemn for ringbone, spavin, or sidebone is difficult to settle, being entirely a matter of opinion. The factors in your personality that lead you straight to the truth in the case of to-day will lead you to a wrong decision in the case of to-morrow, though at the time you don't think so, and it is a blessing that these "border-line" cases are not being sold and bought every day between men of litigious temperament. No doubt, where there is any decided difference in two hocks or two pasterns, we must condemn, but if the difference is only just appreciable or doubtful (and we know that the mass of hair and very often thickened skin at the coronets are baffling to our tactile sense), the horse should have the benefit of the doubt, if going sound. Thus we see that human expe-

rience at times proves a fickle jade, and "it ill becomes even the best of us" to decry the man who takes his stand on the other side of the hedge. In such controversial cases, hocks are either rough or spavined, and pasterns either coarse or ringboned, according to the individual opinion of the examiner, and when a case of this kind goes to Court, the conflict continues, each man strengthening his own edifice in the manner of a politician. A timeous post mortem discloses more truth than a seven days' lawsuit, but we are seldom afforded the opportunity of deciding the issue in this way. But surely many of these disputed cases could be settled with much less expense than obtains at present. When it happens that several men of equal professional calibre are at loggerheads, I would suggest to horsemen with a bent for law that instead of having recourse to the Law Courts, where the issue is as uncertain as the toss of a penny, they should consider the propriety of mutually agreeing to appoint three experienced and neutral veterinary surgeons, who, after hearing the available evidence, could make a personal examination of the animal, and settle the matter. This would be equally conducive to truth, and economical financially to the interested parties. Failing this, I think the money squandered in expensive litigation could be more wisely utilised in putting the animal down and committing the issue to the tribunal of three neutral veterinary surgeons, who could absolutely decide the truth with the open book of the bare bones in front of them. In the case of "sidebones" the difficulty arises only when a horse has rather rigid cartilages, and the ossification, or turning of the cartilage into bone, is not complete. Although very common in our mature draught animals, sidebones are not of great economical significance; they are of more importance—though less often met with—in hunters, hacks, and harness horses. It is surprising how many cart horses have sidebone—something approaching 50 per cent.—but in seven or eight-year-old animals this seldom produces lameness if unaccompanied by weak feet, and it is rarely met in young, unbroken animals. In Ireland and other hunting countries the bone of contention is "whistler or not," and this is due to the fact, so often verified, that the sound animal of to-day may be a whistler to-morrow, and so one man may pass as "sound of wind" the horse which a novice would reject a few days later. There is some controversy as to the amount of latitude which should be extended to fat stallions that "grunt" more or less to the stick. Those who put little stress on this are esteemed by the men who own these animals, but our experience is that the tolerance of many owners varies with the needs of their animals year by year, and they are to be likened to a not unworthy client of mine—a show official—who, trusting to a shortness of memory on my part as measurer, would counsel me one year that an inch or two was neither here nor there, and that big classes were the objective of the committee, while the next year, when it transpired that his own goods were likely to pass the standard, he would expatiate on the need for paying strict regard to my duty as measurer. "Grunting" is by no means a positive sign of unsound wind, and the great majority of big, fat horses that grunt to the stick are quite free from disease of the larynx. Many horses grunt from fear or habit when in perfect health, and the sound is often emitted by animals suffering from painful chest complaints. And experience has shown that it is foolishness to think that you can feed large horses to fat condition with heavy, bulky food and not have a great number of them become grunTERS.

Though grunting is always to be looked on with suspicion, because the roarer or whistler almost invariably grunts, and though the various gradations are somewhat difficult to estimate, we usually find that what is known as a "bull grunter" proves to be a roarer. Every animal that grunts to the stick should be further

tested for his wind, and if he passes successfully the orthodox tests for roaring, he may safely be considered as sound of wind. And, since fatness is no sign of condition or tone, but usually the reverse, we have to be careful not to confuse the breathlessness and louder respiration that result from the enforced exercise of any test with the signs of roaring or other unsoundnesses of the respiratory organs. When a veterinary surgeon finds that a horse otherwise sound makes a noise to the stick, it is sufficient for him to mention the fact for his own protection. We have always to bear in mind that either grunting or broken wind may develop quite suddenly.

BOG SPAVIN OR THOROUGHPIN.

When we come to consider bog spavin and thoroughpin, we find in some Clydesdales that the hereditary predisposition to these conditions is strongly marked. A degree of puffiness in the well-shaped hocks of a heavy entire is to be excused, since it is very often the result of the severe stress to which these joints are put when a heavy animal is serving. But there is some ground for controversy when we encounter young animals, excellent in every other detail, possessed of those extremely straight hocks that are bulging and sometimes fleshy ere yet they have begun to do service. This faulty conformation is very undesirable, and we would readily ban any animal whose unduly straight hocks were showing such evidence of wear as would lead to the conclusion that they would soon fail him. But though the veterinary inspector cannot condemn till the hocks show evidence of disease, we are often surprised that judges, in making their awards, do not deduct more marks for such faulty conformation.

HEREDITY.

In considering the question of the "heredity of unsoundness," we have always to remember the dual parentage. Soundness is important both in sire and dam, but since he may beget fifty foals per annum, while she produces only one, his individual influence on our future horse population is proportionately greater, but the soundness of the mare is none the less necessary, seeing that her get of to-day may be the stud horse of to-morrow. I have often been surprised at the rush that is made occasionally by farmers to secure the service for their brood mare of the flashy two or three-year-old that has gained the honours of the day. Compared with the use of the aged, sound, and proved stallion who may have lost the bloom and agility of youth, the investment is distinctly speculative. Commend us to the use of the old horse whose proclivity for begetting sound, good type animals has become, as it were, standardised. In the dependence which may be placed on him to beget what you desire, he is comparable to the patent drugs now produced by manufacturing chemists which have had their therapeutic action tested and standardised by actual experiment, thus materially increasing their reliability. In the case of the sire that has not lived long enough to be so standardised, we should demand more than his individual freedom from recognisable hereditary disease. If he is to assist in the war against unsoundness, he must be the product of sound stock, and the weakness of much of the present-day endeavour to improve our stock lies in our want of jurisdiction over the mother, or it may be the father or grandparents of the animal in question. Indeed, the sound horse of unsound parentage is much less desirable as a sire than the unsound animal begot of a sound race, for the latter may conceivably produce the sounder stock. It is the blood that tells. Much depends on the immediate ancestors, and we have occasionally seen how a sire exceeding in bone and stature any of his race begat animals of inferior size, and we have seen the pigmy of a line produce gets worthy of his bigger kindred. Indeed, the sport of any

genealogical tree may be fairly depended on to reproduce animals worthy of his parents, unless he is mated to a mare that is potent to neutralise the outstanding features of his race. And, since the Stud-Book, from the standpoint of hereditary unsoundness, contains many undesirables, I leave it to you to decide whether it would not be advantageous and practicable to found a new and emancipated register of Clydesdales, free from the taint of hereditary unsoundness, so far as this object is possible to the wit and co-operation of mere men.

THE EXPORT TRADE.

In these latter days, when so many of our choicest Clydesdales are bought by Colonials and foreigners, who, generally speaking and so far as they know, accept only those that are sound, leaving the rejected to swell the proportion of unsound animals in these isles, need we wonder why there is not a sufficiency of sound animals to go round those firms that are willing to pay a good price for them, and that the veterinary surgeon's duty is not confined within the narrow limits of the question sound or unsound, but embraces in the choice of even high-priced animals a discrimination between unsoundness of different sorts, according to the purpose for which the animals are intended. This state of the market, while it offers a broader sphere of usefulness for the advising veterinary surgeon, is regrettable on account of the loss of value in horse flesh which it represents. Horse-breeders ought to discern in the yearly increasing utility, durability, and dependence to be placed in motor vehicles their strongest incentive to breed from sound animals of sound pedigree only, so as to reduce to a minimum the number of horses that, in the user's hands, become prematurely unfit from hereditary unsoundness. And, besides endeavouring to eradicate hereditary disease, they should aim at producing a class of animals likely to wear well in hard city work.

Mark the progress of events in our Colonies. The horse that has not a certificate of soundness there is banned both in the showyard and the market. And in their choice of the Shire to the Clydesdale in our Southern Colonies, we see an example of a progressive movement which will sooner or later call a halt to our cultivation in the Clydesdale of those points which considerably constitute the fancy, and which, though difficult to produce, often count for little in the utility of an animal.

Finally, gentlemen, let me say that your patience has been admirable. I hope you will have a good discussion, and if you make it plain that I have dealt with the subject in a defective manner, please remember that it is not the theme I would voluntarily have chosen to address you on. My main endeavour has been to present you with an unvarnished tale of the almost insuperable difficulties that at times confront us in the work of examining horses as to soundness, in the hope that a fuller understanding may breed in your minds that charity that forbids scathful remarks, and that there may be an increase of your faith in us as a body of men who, whatever our limitations are, are conscientiously endeavouring to read clearly our allotted portion of Nature's infinite book of secrecy.

[Mr. Begg had a cordial reception, and was loudly applauded at the termination of his paper.]

DISCUSSION.

Mr. JOHN FINDLAY, Springhill, Baillieston, said there was one thing Mr. Begg had impressed upon him, and that was the difficulties which beset veterinary surgeons in trying to see whether a horse was sound or not. Mr. Begg had admitted that veterinary surgeons could make mistakes, and he seemed to indicate that it would only be after a veterinary surgeon had come to the age of forty years that he would be of any real practical

use in deciding whether a horse was fit to pass the test or not. That, Mr. Findlay thought, was a little hard on the young veterinary surgeons. They could not all wait till they were forty years of age before beginning to vet. horses. It was many years since animals were vetted in the show rings. The Highland and Agricultural Society had taken it up years ago, but it did not work well, and only brought confusion, and consequently the society reverted to the old system of securing the best judges. With all deference to veterinary surgeons, he thought competent farmers who often acted as judges were entitled to very great credit for the high position the Clydesdale occupied for soundness. (Applause.)

Mr. WILLIAM ROBB, F.R.C.V.S., Glasgow, thought it was not a question for the veterinary surgeons at all, but for the breeders and users of Clydesdale stallions. It lay with them as to whether there should be examination or not. According to some it was not necessary, while according to others it ought to have been done long ago. Speaking as a veterinary surgeon, he said the longer they did without examination it only brought in more grist to the mill. (Laughter and applause.) From a financial and business point of view, it lay with the breeders. If they decided to have examination, he asked who was going to do it? They read the works of eminent writers, so they should employ eminent veterinary surgeons. Mr. Findlay referred to the judges' opinion. The examination was largely limited to the hoof-head, but occasionally they found that a horse had sidebone, and they seldom got beyond that. Judges should judge type only, and if there were to be examination, let it be all round. Whether a veterinary surgeon was the best party to carry out that was a matter of opinion. If they waited till the veterinary surgeon was perfect they should give it up. That official was only human, and some had escaped jail in their time, while others had been jailed. (Laughter.) Taking the case of the Shire horse, he remarked breeders of that class of horses had said that vetting had been of wonderful benefit in eradicating unsoundness in horses. Proceeding, he said the greatest stumbling-block to many of the stallion owners was the question of roaring. It was expected that once a stallion had been fed he must roar. That was not correct. He (Mr. Robb) had passed a nine-year-old after a severe test—not during his season, but when he was standing idle—as absolutely sound of wind, while, again, he had condemned a three-year-old without much provocation. He agreed with Mr. Begg in the difficulties of showyard examination. They were more likely to make errors there of omission than commission. In conclusion, he said he could mention the names of premium horses which were shiverers, and others which had sidebones, and the result had been disastrous to all who used them.

Mr. JAMES SNODGRASS, Millig, Helensburgh, thought all stud horses should be examined. The poacher was a great danger to be avoided. Horses which were not good enough to be used as stud horses at home were sent to poach in the country districts, and very often they were unsound. They usually got a good number of mares, and the produce were all unsound. It was very hard on the man who bought a young horse, and, after keeping him for a year or two, discovered that he was developing "hackney" action. (Laughter.) All stallions should be examined and passed as sound.

Mr. DAVID ALLAN, V.S., Clarkston, said the matter of unsoundness had been a very great question all along, but there was difficulty in defining soundness from unsoundness. A horse might have an abnormal formation which would be put down as a disease. That was not fair, and unless horses had a disease they ought not to be condemned. In hereditary unsoundness they had a most difficult thing to contend with. He thought breeders should be very particular in breeding from

both mares and sires which were free from hereditary disease. Veterinary surgeons were often blamed for passing horses as sound where there was disease. It was a very wise arrangement, he thought, to have all horses examined which were competing for premium prizes. Concluding, he said there were plenty of horses condemned as shiverers whereas it was simply luxation of the patella, the small bone in front of the stifle.

Mr. JOSEPH ROUTLEDGE, 42 Grant Street, Glasgow, remarked that the great question of unsoundness had been brought lately to an acute stage on account of the diversity of opinions which existed amongst the highest authorities in the veterinary profession. The difficulty, of course, was with the aged horse. The question was whether a certificate of soundness should be given to a three-year-old or four-year old horse, and then, when six years of age, to give him a fresh certificate for life. Breeders and farmers ought to take up the matter seriously. The advice given in the lecture as to how breeders should choose their sires would do a great deal to eradicate the question of unsoundness.

Mr. Arch. MacNeillage, hon. sec., thought that Mr. Begg's lecture was largely an apologia for the veterinary surgeons. He did not think such a thing was necessary, but those who read the evidence in the recent Dumfries filly case might have arrived at the conclusion that some kind of apology for the profession was required. After all, veterinary surgeons were like their brethren in the medical profession. He would like to ask even the most confirmed unbeliever in the veterinary surgeon's diagnosis if he would be prepared, in the case of critical illness of a human subject closely related to him, to adopt the principles which he advocated in regard to disease amongst animals. Medical men often gave contrary opinions regarding diseases. Under these circumstances, when a member of a family was seriously ill, would they expect that the mother, who was the best experienced in the house, was better fitted to give advice on the subject than two or three men who had made a special study of the disease? He was sure no one would adopt such an attitude. Mr. Findlay had argued that judges in the showyard were quite competent to decide whether animals were sound or otherwise for all practical purposes. He was prepared to admit that there were many men who acted as judges who were well qualified to express opinions on the matter of practical unsoundness. In over thirty years' experience and observation, reporting in the show ring, he had heard the excuse advanced time and again, when animals which were unsound were promoted to the highest places, that the judges were not veterinary surgeons, and that they were not there to judge soundness, but type. That being so, who was to judge soundness? There was only one qualified judge, and that was the man in the profession trained for that purpose. Reference had been made to the fact that the Clydesdale breed was exceptionally sound. He admitted that, but on what data was he to base his claim if challenged to prove it? If a man made that claim on behalf of the Shire horse he showed figures to the effect for thirty-four years. These figures could be allowed to speak for themselves. He had data based on ascertained facts covering a period of thirty-four years. As regards the Clydesdale, they had no such data. They had only the examinations at the Royal of the comparatively few Clydesdales shown there, and the examination for the Cawdor Cups during the past three or four years. He was pleased to be able to say, on the authority of Principal McCall, that on Tuesday seventeen stallions were examined, and only one failed to pass. Except for that, he had no data to go upon in support of the contention that the Clydesdale was an exceptionally sound breed. If they were to stand against the world and battle with the other breeds, they must have inspection. The classification of the horses at the London Shire Show was a masterpiece. There were

classes provided for yearlings, two-year-olds, three-year-olds, four year-olds, and then from five to nine, and next a class for stallions ten years old and upwards, and those in the last named class were subjected to the same test as in the younger classes. The whole matter was a breeder's question, and not a horse owner's or a veterinary surgeon's question. The breeder was the man who paid for the use of unsound stallions, and it was the breeder who lost the money when the produce were unfit. He had never known judges in the showyard, with one exception only, put into effect their skill in judging horses for soundness. The exception was at the Inverness Highland Show in 1883, when three judges placed what was admittedly the best horse in the class in the corner of the ring, and never gave it a ticket. On another occasion, at Perth in 1887, the judges put a horse which was temporarily lame out of the awards. Although only temporarily, it was lame, which was enough for them. A year ago on Tuesday, when inspection was in progress in the Scotstoun showyard, the late Mr. David Riddell had said to the inspectors, in the hearing of a company of which he (the speaker) was one—"Gang on with your work, men, it is a step in the right direction." He thought that testimony of a stallion owner with fully fifty years' experience was worthy of being put on record. (Applause).

The CHAIRMAN, in moving a vote of thanks to the lecturer, advised them to remember their customers, and always send their best goods to the market, or they would lose their customers.

Mr. BEGG, in reply, said that Mr. Findlay had scarcely caught the actual meaning of his phrase. He did not wish to decry the ability of the young practitioner, but he was only trying to show that the capability of a veterinary surgeon was increased through long practice, as his views were broadened. Of course, age did not always mean experience, because a young man might be quite experienced after a year or two's practice.—*The Scottish Farmer*.

PHYSIOLOGY AS A FUNDAMENTAL IN VETERINARY EDUCATION.*

Education, like nature, should be orderly—a development from the simple to the complex. The development of the morphologically simple cell into the complex adult animal organism proceeds in an orderly way. The cell is the morphological unit and the mature animal consists of innumerable units, some of which have undergone a very great modification as to form. The cell cannot be accepted as the physiological unit. What is apparently simple as to form is not necessarily simple as to function. The activities of the cell are but partially understood. The physiological unit, around which centre these activities, is, like the atom of chemistry, invisible, but its power is unquestioned. Function is concealed in structure. Function is not often revealed without search and, indeed, research. In some instances it may be so superficial as to be easily recognised: in others it may lie so deeply that the keenest intellect is baffled in demonstrating its presence in a satisfactory manner.

The relation of Physiology to the biological sciences is most intimate. It is not a question of independence, but of interdependence. Many more or less plausible arguments may be advanced that one particular science may have a greater relative value than others. Chemistry and physics are concerned with matter and we ordinarily associate them with unorganised bodies. Physiology is restricted to *living* matter, or organised bodies. We

cannot consider inorganic material in physiological terms. Yet chemistry and physics are intricately involved in physiological processes and the question arises, perhaps, in the minds of some if, under the proper combination of conditions and of environment, life is not evolved from chemical reactions. Chemical action is constantly occurring in living tissue. Does it control the living tissue or does the living tissue control it? In the processes of filtration, diffusion and osmosis, physics occupies a relationship scarcely less intimate than chemistry. Solutions of crystallizable substances of unequal concentration separated by an animal membrane will ultimately become uniform. Physics has demonstrated this. Is there any difference in the results if the animal membrane be living or dead? In some instances it has been shown that it does. Waymouth Reid introduced into the intestine of a living animal a certain amount of its own blood serum. The epithelial cells of the alimentary tract were therefore in contact on the one side with this blood serum and on the other with capillary vessels containing blood, the fluid of which had the same composition as the serum in the intestine. If the intestinal wall acted like an ordinary dead membrane there could be no passage of the serum from the intestine to the blood by diffusion or osmosis. It was found that the serum was rapidly absorbed. This could not be due to ordinary filtration because the pressure in the intestine was less than in the capillaries. The conclusion was reached that while known physical forces play a certain part in absorption, there remains an unexplained factor. Some, however, regard this unexplained factor as the living cell, and that because of its living condition two separate fluids of uniform composition were made to unite against pressure.

A somewhat similar example occurring in the kidney may be referred to. Urine contains a much higher percentage of urea than does the blood, but in spite of that the extremely weak solution of the urea in the blood gives up its urea to the more concentrated solution in the urine. Physical law will permit the passage of a substance from the stronger to the weaker solution, but not the reverse.

Co-operation is the key-note of physiology. In no other science, perhaps, do we have such striking examples. Since the time of Sir Charles Bell, physiologists have recognised the importance of the nervous system in co-ordinating and regulating the various bodily functions. In comparatively recent years the realisation has grown that the harmonious adjustment of the various tissues is not confined entirely to the numerous reflexes through the nervous system, but that there is in addition a regulation by chemical means through the blood and other fluids of the body. The development of our knowledge of the internal secretions led Brown-Sequard to the generalisation that every tissue in the body in the course of its normal function gave material to the blood which was of use in regulating the activity of other tissues. This idea has been supported by facts brought out in connection with the study of the ductless glands of the body. The generalisation of Brown-Sequard has been confirmed in a definite way by the investigations of Bayliss and Starling upon secretin. They have demonstrated that when hydrochloric acid is brought in contact with the epithelial cells of the duodenum a substance (secretin) is produced which passes into the blood and is carried to the pancreas and stimulates it to secrete the pancreatic juice. This is a definite example of a substance which, originating in one tissue, is of direct aid in the function of another tissue in a chemical way. Such a substance has been designated by Starling as a "hormone."

The epithelial cells of the duodenum co-operate in still another very striking manner. When the pancreatic juice is secreted its proteolytic enzyme is in the form of

* Presented at the meeting of the Association of Veterinary Faculties and Examining Boards of North America, at Toronto, Canada, Aug., 1911.

trypsinogen—an inert substance. As soon as it comes in contact with the duodenum, the trypsinogen is activated or converted into trypsin, which has the power of acting vigorously upon proteid material. The substance which causes this activation is known as enterokinase. It would thus appear that the duodenal cells are doubly co-operative in assisting other tissues in a chemical way. The secretin which they produce is comparable to an internal secretion, since it is turned into the blood and stimulates the pancreas to perform its function; the enterokinase, on the other hand, is comparable to an external secretion, since it is turned into the intestinal cavity and thereby activates one of the important constituents of the pancreatic secretion.

An interesting co-operative cycle is apparently established around the duodenum. In the stomach, pepsinogen is secreted by certain cells in the gastric glands; this presumably is activated to pepsin by the hydrochloric acid formed by another type of cell in the gastric glands. The gastric chyme with its hydrochloric acid, on reaching the duodenum, stimulates the production of secretin, which in turn stimulates the flow of the pancreatic juice. The pancreatic secretion on reaching the duodenum induces the production of enterokinase by which its trypsinogen is activated to trypsin.

Because of the considerable amount of carbohydrate in the diet, it might naturally be expected to find a vigorous diastatic enzyme in the saliva of the horse, if in any animal. Yet the saliva taken from the duct of the parotid gland is unable to convert a starch mixture into a reducing sugar except to a very limited extent and after a considerable period of time. Is there an absence of the diastatic enzyme, except such as may filter through to the secretion from the blood, or is there an inert ptyalinogen which meets its activator further down the tract and is there converted into the active ptyalin?

Other examples of co-operation may be mentioned in connection with the pituitary body of the brain, and the thyroid and suprarenal glands. Although not provided with ducts, an internal secretion is nevertheless formed which is turned into the blood and lymph and exerts an influence upon the other tissues of the body so important that if the glands become diseased or removed, serious or fatal consequences result.

One of the most interesting examples of an internal secretion which is not necessary to life but which yet profoundly affects the chemical changes occurring in the body is that of the ovaries. It has long been familiar to stockmen and others that the removal of the ovaries increases considerably the rapidity with which fat is laid on. According to the researches of Loewy and Richter, of Berlin, the explanation is that the ovaries produce a substance which hastens the oxidation of the tissues and the food. When this substance is injected under the skin of animals in which the ovaries have been removed, the tissue waste is markedly increased.

Since physiology is concerned with living matter and that alone, the border lines between it and other biological sciences must of necessity be indefinite and more or less overlapping. This is peculiarly true as to its relation with pathology, medicine and therapeutics. The chief function of the living tissues is change—metabolism. Changes of composition, form or even structure are pertinent to physiology if they occur in the living tissue. The activity of the tissues may be increased or decreased for a greater or less time and the conditions still remain within normal limits. There may be a lack of co-operation for a time without abnormal results. The dividing line between the normal and the abnormal is at the outset imperceptible. Bacteria are present in the normal body and are more or less concerned with the normal functions of the alimentary tract.

Physiology stands for co-operation, pathology deals with a disturbed co-operation. A tissue unduly excited

will, in time, disturb the harmonious adjustment of certain other tissues, producing a chain of results which induces an abnormal or pathological effect upon the organism, as a whole, and medical science is invoked to alleviate the disturbed condition and to restore the normal adjustment. In other instances the hyperexcitability may be localized in a given tissue, as with a benignant tumour without apparent interference with the normal functions of the other parts. Pathology is physiology gone wrong and, although it has been emphasized before, it is well to emphasize it again: that to understand the abnormal, it is necessary to have as complete a knowledge as possible of the normal organism.

If it is the province of pathology to point out the differences between the normal and abnormal, it is the very important duty of medical science to attempt the restoration of the abnormal to the normal. If it is important for the surgeon to know thoroughly the form and structure of the tissues in order that abnormal or diseased parts may be removed with the hope of bringing about a normal condition again; then is it equally important for the medical practitioner to know thoroughly the functions of the tissues and their system of co-operation, if he is to restore the diseased organism to its normal physiological standard. Therapeutics must be invoked with a knowledge of those agents which will stimulate the weakened parts to their normal tone, or which will soothe the overirritable or overexcited tissues to their natural calm. Without anatomy we may assume there could not be proper surgical procedure; we may equally assume that without physiology there could not be satisfactory medical practise. Indeed, the practitioner's service is but an extended laboratory course in physiology.

Diseases are due to a disturbance of physiological co-operation either internally through the interrelationship of the different tissues, or externally from the introduction of material foreign to the organism. In veterinary practice there is perhaps no more striking example of disturbed co-operation than in azoturia. Why should renewed work after a day or two of idleness cause such a physiological upheaval in the horse as to make it necessary to record so large a percentage of fatalities? The answer will probably be found in the disturbed adjustment of the circulation, muscular and renal tissues, caused, perhaps, through chemical substances introduced through the digestive system and influenced more or less by external conditions. Why are other domesticated animals exempt from this affection? The hydrocephalic dummy, parturient paresis in cattle, and many other diseases when finally worked out may be found to be due to the production of some chemical substance developed in one tissue, which, circulating to other tissues, excites them directly or reflexly to such an extent that the whole adjustment is thrown into more or less disorder.

In the urine of man, more than a trace of indican is pathological. Why should the relatively large amount of this substance usually found in the urine of the horse be regarded as a normal condition?

In order to solve the problems of the normal as well as the abnormal, it would appear essential to work out the physiology of each species of the domesticated animal distinctly. While many of the conditions may be fundamental to all, there are some characters which are peculiar to each type. Physiology is not all internal; external conditions must be reckoned with. Diet, habit and environment all contribute to the harmonious adjustment of the internal mechanism.

The practitioner should not be blamed too severely for a certain amount of empiricism. Physiology has not yet solved all of its problems, and until the solution is forthcoming a strictly rational treatment of all diseases is impossible.

If my meaning has been clearly expressed, it should be apparent that physiology is a *living* science and is concerned with the manifestations of life; its action is co-operative, not only to the tissues in an individual organism, but in a broader sense to the other biological sciences; it is fundamental especially to pathology and medicine, and, co-operating with them, seeks to conserve the general health of animals and man.

PIERRE A. FISH.

Cornell University.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

The fiftieth annual meeting was held at the Grand Hotel, Manchester, on Feb. 16th. The President, J. W. Brittlebank, Esq., in the chair.

The minutes of the last annual meeting were taken as read, on the proposition of Mr. Taylor, seconded by Mr. Munro.

Election of Members. Messrs. W. H. BRIDGE, Bolton; E. R. EDWARDS, Board of Agriculture; A. RICHARDSON, Liverpool; J. SPREULL, Manchester; and H. A. TURNER, Manchester, were unanimously elected members of the Association on the proposition of Mr. Locke, seconded by Mr. Brittlebank.

Nominations. Mr. T. O. RICHARDSON, Tarporley, was nominated for membership by the President, as also was Mr. HEYES, Wigan, by Mr. Sumner.

Correspondence. The Secretary submitted a letter, dated Dec. 15th last, stating that a Congress arranged by the Société de Pathologie Comparée will be held in Paris in October. Fuller details are given on page 720 of the December issue of *The Journal of Meat and Milk Hygiene*.

A letter from Mr. Gofton, Hon. Sec. of the Organising Committee, N.V.A., under date of Jan. 20th. This contained a request as to the decision of the Lancashire V.M.A. in regard to affiliation with the N.V.A. Also, in the event of the decision being favourable, as to the names of the representatives chosen in accordance with rule 36.

It was pointed out that the Society had passed a resolution approving of the scheme at their quarterly meeting of April 6th last.

Mr. WOODS formally moved that the Lancashire V.M.A. affiliate with the National Veterinary Association. Mr. Sumner seconded, and it was carried.

The selection of representatives was referred to the Council for consideration and report to next quarterly meeting.

Council Election of R.C.V.S. Mr. TAYLOR moved that Mr. Packman be the nominee. Mr. Lawson seconded, and it was carried.

Mr. LOCKE proposed that the Lancashire V.M.A. unite with the Yorkshire, Eastern Counties, and Liverpool Societies in the forthcoming election. This was seconded by Mr. Pillers and carried.

Balance Sheet. Mr. STENT submitted the balance sheet for the year 1911. This had already been printed and circulated to members. It showed a balance of £11, the membership remaining about the same.

The PRESIDENT proposed, and Mr. Lawson seconded, that the balance sheet be adopted. Carried.

Mr. LOCKE drew attention to the number of members in arrear, and moved that the matter be referred to the Council. Mr. Lawson seconded, and it was adopted.

Alteration to Rule 3. In the absence of Mr. Lloyd, Mr. Locke proposed an alteration to rule 3 in regard to the date of the first quarterly meeting, viz., "First Thursday in April to read third Thursday in March." Mr. Wolstenholme seconded the proposal, and it was carried.

Mr. LOCKE announced that he had received promises of twenty guineas towards the entertainment fund in connection with the visit of the N.V.A. to Manchester in July next. He appealed to members for promise of support.

Mr. LAWSON reminded the meeting of the National Congress to be held in London in 1914, and the necessity for their Association doing its utmost to assist in the success of that Congress.

The PRESIDENT said he thought it could be taken for granted that that would be done. He promised to bring the matter before the Council.

PRESIDENTIAL ADDRESS.

Mr. J. W. BRITTLEBANK, M.R.C.V.S., Manchester.

Gentlemen,—May I first of all extend to you all my very sincere thanks for again conferring upon me the honour of electing me your President for the coming year, particularly do I appreciate the distinction when I look back upon the year which is past and remember the many courtesies and kindnesses which I have received, and, I need scarcely add, the unswerving loyalty of you all.

I do not propose to inflict upon you anything in the way of a lengthy address; I do not think it can be expected of me; but I should like to briefly refer to one or two matters which are of interest to us.

In the first place the National Veterinary Association have accepted the invitation which you extended to them to come to Lancashire; and it is now up to us to do all we can, collectively and individually, to make their visit a memorable one.

Now that the amalgamation of the Societies is an accomplished fact we may hope that the common interests for the welfare of the profession will in no way suffer. I believe that the amalgamation cannot help but become a powerful factor in advancing the future of the profession, whether it be in a political sense, in which direction I am convinced that we have at last an opportunity of bringing our College motto, *Vis unita fortior*, into actual practice, or in the scientific sense. The example which the unity of the medical profession has recently set us is surely some indication of the great power which a profession can exercise in bringing pressure to bear, so that they may secure those rights to which they are entitled.

I do not for an instant wish to suggest such an organisation should be at any time made the medium of promoting discord and bad citizenship. But I am perfectly satisfied in my own mind that we as a profession have occupied quite long enough the subsidiary place in which we find ourselves partly, no doubt, due to our own fault—and that the time is not far distant when we should be able to secure those positions to which we have a right as a professional body.

In the scientific world also there are vast possibilities open to us, the field of research is ever calling, and we can only hope that the advance in the scientific history of veterinary medicine will be even more marked in the next fifty years than in the half century which is past.

I have purposely referred in the previous paragraph to the half-century, not with the idea of bringing before you the fact that this is the 50th year of existence of the Lancashire Veterinary Medical Association or that the progress of veterinary science commenced at the inception of this Society, but I do claim that societies such as ours have played no mean part in the advancement which has been made in our knowledge of the pathology and prevention, and, shall I add, the treatment of disease in the lower animals. These periodical meetings have caused many exchanges of views, have been the avenues through which new ideas occurred, petty jealousies have been dissipated, and so they have helped to consolidate

the profession, and have served their purpose manfully through the years which are past. The future we may safely leave to itself, having one solid purpose before us which can be briefly summarised into the one word, Progress.

I regret deeply the delay, due, I think, to the unnecessary interference of a minority of our profession in the passage of the Bill through Parliament. All legislation in the past has shown that it is quite impossible to devise measures which will satisfy everyone, and that it is the minority who must give way; but surely in our case it was not very difficult for any man who ever pretended to have the higher interests of his calling at heart to see that money was, and is, urgently needed, if the Royal College of Veterinary Surgeons is to be preserved as a licensing and disciplinary body, and the encroachment of other educational bodies are to be kept at bay.

As is known to many of you, the International Veterinary Congress is to be held in London in 1914, and a considerable sum of money will be required in order to extend toward those who come from over the seas that hospitality which has been for centuries a source of pride to us as a nation.

That the organisation will lack nothing we are assured, for we have Sir John McFadyen at the head, and I do hope that he will have no reason to say that we as a profession have fallen short in extending to him that support in carrying this Congress to a successful issue, both scientifically and socially, which it is his right as the leader to expect.

I may be excused for referring briefly to the field of veterinary work in which I am engaged as one before which there are vast possibilities for our profession. I venture to prophesy that the time will come when the Veterinary State Officer will become just as essential a portion of the preventive medicine service as the Medical Officer of Health is to-day, and I feel sure that there is no need for much of the pessimism evident with regard to our future. The graduates of the future will find many avenues opening to them, and those responsible for the education of the embryo veterinarian will do well to bear this in mind, and to provide accordingly.

I must thank our Secretary, Mr. Locke, for his kindness to me during the year which is past, and can only say that with the same measure of support extended to us during the coming session we hope to carry even higher the prosperity of the Lancashire Veterinary Medical Association.

Mr. LAWSON proposed a vote of thanks to the President for his address.

Mr. McKENNA, in seconding, said the coming year would be one of great interest to the Lancashire V.M.A., and very many duties would devolve upon the President.

The PRESIDENT thanked the meeting, and said that with the help of the members the Society would in no way be disgraced in the coming year.

THE JUBILEE DINNER.

The attendance included the President, Messrs. Garnett, Lawson, Burndred, Noar, Munro, McKinna, Pillers, Stent, Taylor, Wolstenholme, Woods, Priestner, Whitehead, Turner, Sumner, Ingram, Michaelis and Locke.

The guests of the evening were Aldermen Turnbull and Dixon, Councillors Kay and Jones (Manchester City Council), Prof. Delépine, Dr. Sergeant, Dr. Dearden, Dr. Arnold, Dr. Cryer, Dr. Rothwell, Major Stonier, Major Mason, Messrs. Clarkson, Heap, Roberts, Allinson, Houghton, Weir, Cantrill, Mallinson, Cecil Taylor, H. Sumner, junr., Wadsworth and White.

Apologies for absence were received from Messrs. Abson, Share-Jones, Packman, Faulkner, Hughes, Bartrum.

The PRESIDENT, in giving the toast "The King," thought he need say little, except to say that all were glad to welcome his Majesty safely back again. The toast was given with musical honours.

The PRESIDENT also gave the toast to "The Queen, Queen Alexandra, H.R.H. the Prince of Wales and the other members of the Royal Family."

"The Imperial Forces." Mr. STENT said that without doubt the most important branch was the Navy, our first and foremost line of defence. He believed it to be the most powerful this world had ever known. But even the best of ships are of little use unless you have the right men in them, and in this respect we had the finest set of men of any nation. It was difficult for a civilian to speak of the condition of affairs in the Army, but he was inclined to agree with Lord Roberts, that some form of compulsory service is necessary, if only for the physical development of the nation. These questions should be non-political, and to his mind it was a scandal to be otherwise. He had great hopes of the Boy-scout movement, but had hesitancy in speaking of the Territorials.

Major A. W. MASON, in responding, said he had borne His Majesty's uniform since 1874. He agreed with Mr. Stent that our men in the Navy were the finest force in the world. The Army were small, but very good. As to the Territorials there was much difference of opinion, and a great deal of politics in regard to the force. The force certainly did not get enough money to equip itself properly, and the question of horse supply was a serious one. If mobilisation were required to-morrow it could not be done. He believed the Army Veterinary Corps to be pre-eminent, and also considered that the Boy-scout movement would prove a useful adjunct to the higher branches of the forces.

Mr. WOLSTENHOLME proposed "The Medical Profession." He felt highly honoured that this important toast was given to him to propose, but regretted that Prof. Share-Jones was not present to fulfil the task as arranged. To his mind the medical profession is the highest calling that a human being can engage in. It is calculated and capable of bringing into activity the finest qualities that any man can possess. No man needs a greater quality of courage than the surgeon. No man needs a more supreme delicacy of touch than the surgeon, and really no man more needs—and in most cases they possess—the tender heart of a woman. He might say on behalf of his profession there is no section of the community of these islands that more reverences and admires the sister branch of their profession—the medical profession—than the veterinary profession. They knew something of the qualities necessary and had something of the ability to recognise those qualities when brought into play by the surgeon.

Casting the eye back, as he could, on the changes which had taken place in medical practice, he believed it to be remarkable. In his recollection the pigs of the district regaled themselves largely on poultices from patients in the Royal Infirmary of Manchester. In his time deaths from Erysipelas in some of the operating theatres of this country were alarming, and the deaths from Puerperal fever appalling.

He referred to the accuracy with which diagnosis could now be made. How many people, he asked, had been diagnosed to have pneumonia or inflammation of the cerebellum when all the time they had typhoid fever. There need be no mistake about typhoid fever to-day. Similarly with the diagnosis of diphtheria. He referred to the late Mr. Bradley, who used to do an amputation of the thigh and finish off in half-an-hour. The surgeon is now no longer seeking the minimum time in which to do an operation, but is seeking and attaining such a percentage of recoveries that the surgeon of those days never dreamt of. The first great link in the surgery of

to-day passed many years ago. The brilliant surgical mind that brought antiseptic surgery to poor suffering humanity has just passed away. The results obtained by this have been marvels of science. The surgeon has added many years to the life of the community, but far beyond the advantage of years, surgery has decreased the amount of physical pain in an infinite degree. He was, he said, in love with his profession, but if he had the opportunity to exchange he would become a surgeon.

The veterinary profession as a whole was languishing, so his town *confrères* said, but he had always been an optimist. What are wanted are highly trained veterinary surgeons doing original work for the alleviation and obliteration of diseases in animals, and also with the higher object of helping the surgeon to solve many problems which still present themselves in human medicine.

In the public health service even a greater change, if possible, has come over these islands. He looked forward to an era of greater change when the lives of the workers and their health—their only stock-in-trade—will be better safeguarded, more carefully looked after and preserved, and that by the State, than it ever has been done.

Prof. DELEPINE, in response, said it was gratifying to hear words of appreciation of the medical profession at a time of so much uncertainty as to their position. There is no doubt that the strife now taking place between some part of the State and the medical profession must be one of great interest to the profession.

The veterinary profession is a sister profession indeed, and he hoped that in the future they would both work still more in unison. It is difficult in the distribution of official duties to always do what is right at the beginning, but as matters progress both professions would find their right places.

His profession had been praised for the progress it had made in regard to surgery, but they aimed at something better than that, and that is to prevent the need for operations. This appeared suicidal, but the field of preventive medicine will become more and more important.

"The City of Manchester." Mr. Woods said that whilst London was nominally the capital of England, Manchester was the capital of the world so far as cotton was concerned. No doubt the burgesses grumbled from time to time about the high rates, and he often thought that the gentlemen who gave their services free and did very onerous work often got more kicks than pence. The improvement in sanitation, and the consequent improvement in the health of the country was equal to the whole of the rates. It was not so much a question of how much in the pound the rates are, but what is the ability to pay, and that was what they had in Manchester. He coupled with the toast the names of four very respected members of the Manchester City Council, regarding whom he had heard many flattering things.

Alderman DIXON wished they had more persons in Manchester in the same mind as Mr. Woods in regard to the spending of the rates. Speaking as Chairman of the Cleansing Committee he claimed that the cleansing of the City was second to none in the country. As regards officials they had got the best, and despite the cry about raising salaries he believed that when they had good men they should pay them well. He pointed out that they were now paying a rate of 2/6 to 3/- for interest on borrowed money and expressed the opinion that money was too readily borrowed for big schemes. He went on to refer to the late Mr. King's appointment as Veterinary Inspector to the Markets Department, and to the valuable assistance rendered by him. This work had proved so valuable that now they had three qualified assistants to the Chief Veterinary Inspector. Then the Sanitary Committee appointed the President of the Lancashire V.M.A. to safeguard the milk supply,

on which the health of infants so much depended. The death rate was much less than formerly and would, he believed, go down still further.

Councillor KAY also responded. He was sure that money spent in veterinary inspection was not thrown away, but sufficient was not spent. He thought they did not go far enough with the powers they had, and also with the notification of various diseases prevalent in the country. He was afraid the citizens did not appreciate the great benefits received from the assistance of the veterinary profession in the good health of the city. Whatever was done in building up health was money well spent.

Mr. HEAP, ex-President of the National Federation of Meat Traders of Great Britain, proposed "The Veterinary Profession." He proposed the toast with great sincerity, because the trade which he represented has a very close and intimate connection with the veterinary profession. It is hoped that the connection will become more intimate. He congratulated the Councils of Manchester and Salford on having such efficient staffs of inspectors.

As meat traders they had confidence in the inspectors, and thought the confidence was reciprocated; the result being that not only did their trade benefit but the community benefitted to a greater extent. Unfortunately for their trade this district is an exception, and meat inspection in the country is a farce and a disgrace. They had appealed to the Local Government Board to get uniform inspection of meat.

They would probably remember that two years ago an effort was made to obtain a warranty when buying cattle, but failed. It was not fair play after having bought cattle apparently sound to find after slaughter that they were diseased and that they had to bear the loss. The meat traders invited the veterinary profession to assist in getting this altered, and in obtaining efficient inspection throughout the country. He went on to refer to the inspection of meat by sanitary inspectors, and said that the work should be only in the hands of those who had made diseases of animals their special study. He also took exception to medical men doing this work.

The inspection carried on in regard to the milk supply was a wise provision. As meat traders they had some reason, however, for objection in this regard. They had known cases where medical officers on finding cattle suspected to have tuberculosis of the udder had stopped the use of the milk and advised that the animal should be fed up and sold to the butcher. The butcher may then find that what he had paid full price for may be entirely condemned, and he had no redress. The butcher should not be so penalised. The cattle found to be giving tuberculous milk should be branded in such a manner that could not be effaced. It was merely playing with the situation to stop tuberculous milk and let a man sell tuberculous meat.

Mr. GARNETT thanked Mr. Heap for his remarks, and said that nothing but good could come from friendly exchange of views. He thought the veterinary profession as a whole would support Mr. Heap. They all deplored that men who understood drain pipes should have to inspect meat also; and because a medical man had been appointed an inspector he should presume to understand the inspection of meat. That was an injustice to the public.

"The President of the Lancashire V.M.A." Mr. TAYLOR said the toast allotted to him was that of the chief officer of the Society. In looking through the records of the history of the Society he was disappointed in not being able to trace names of the Presidents of the various years of its existence. Fifty years—half a century—was a long time, yet he could claim to have been cognisant of the birth of the Society. As a lad in his teens he was his father's satellite at many of their earlier

meetings. It would be unfair to attempt to extol one President at the expense of another, but he could assure them from a personal knowledge of the whole lot that the Association never had a better President than the man who occupies the position at the present time.

Fifty years ago a handful of veterinary surgeons met, he could not say where, but possibly their first meetings were held at the Brunswick Hotel. The Association had existed for fifty years, and what has it done? Has it done good, or has it done ill to the inhabitants of the city and to the profession itself. He ventured to assert, without fear of contradiction, that it has done good to the profession and to the public. The Association was chiefly instrumental, through the late lamented Sam Locke, who was then a member of the City Council, in bringing forward the importance of the inspection of meat in that city. Through their representation, and through Mr. Locke, Mr. King was appointed to the position when Mr. Atkinson relinquished it. In that respect Manchester was fortunate in getting such a good man. Manchester had again been fortunate in Mr. King's successor, and it was evident that the City Council think so, inasmuch as they have appointed three assistants. He also ventured to think their Association had done good by drawing the attention of public health authorities to the serious consequences of the consumption of tuberculous milk and tuberculous meat.

On the success which followed the appointment of veterinary surgeons as meat inspectors, the City Council chose to appoint a gentleman (the President) as assistant to the Medical Officer of Health of the City of Manchester, and it was their bare duty to thank Mr. Brittlebank for the services he had rendered to the profession and to the City.

It had been said that medicine was assuming different phases, and we now have to look to the prevention of disease almost as much, if not more than, to the cause both in man and animals. That was the situation of the veterinary profession as a result of the advent of motor traction. That position had been clearly seen years ago, and the education of the veterinary student had been pursued on different lines. Now they possessed men fully qualified in every sense to be appointed as State Veterinary Surgeons in public health matters, and young men will have to look to these posts in the future as probably more remunerative than those of ordinary practitioners.

If the State calls upon those who are in power to do everything to prevent disease then, he contended, the State should see that the laws they make are carried out in their entirety throughout the country—that their Acts should not be permissive but obligatory. As to compensation that should never be allowed to become a personal matter. Public health is a national matter, and the nation ought to pay for it.

Once more he wished to allude to the services performed by the President in his position in the City, and to the able manner in which the business of the Association had been conducted during the past twelve months. So well had this been done that he had been re-elected. During the ensuing year the National Veterinary Association will meet in Manchester. On the occasion of the last visit they were entertained by the then Lord Mayor, and they ventured to hope that in the coming visit the City Council would see their way to receive and pay respects to a useful National Association.

The toast was followed by singing "He's a jolly good fellow."

The PRESIDENT, in reply, said he hardly knew how to thank them for the kindly manner in which they had received the toast so kindly proposed by his dear old friend, Mr. Taylor. Little did he think some eleven years ago when he came to Manchester (he might say

that one of his first duties was to become a member of the Lancashire V.M.A.) that he would stand before them as President on the jubilee celebration. He need hardly say how proud he was to be President of an Association which had taken such a prominent part in the active life of the veterinary profession.

Mr. Taylor had referred to their very long history and he echoed the sentiments of all present in congratulating Mr. Taylor in being able to recount so many years of history of the old Association. They were proud to see Mr. Taylor back amongst them looking better, and they hoped he had finished with the operator and that he may permanently resume that position himself.

On entering upon the duties twelve months ago he asked for their kindly indulgence and this had been granted to the very fullest extent. It was a most gratifying feature to have the unswerving loyalty of every member, and whilst that loyalty exists in an Association such as theirs, bound together by the common needs of the profession, the duties of President will not be onerous. Mr. Heap had referred in a very kindly manner to the veterinary profession, and he (the President) thanked him for his personal reference.

The President said that the part he played in the field of municipal life or preventive medicine is but a small one. It is hoped that as years go on the field will extend, and that we shall ultimately get uniformity of action throughout the country both as regards meat and milk.

He felt bound to refer to Mr. Heap's remarks regarding the disposal of cattle whose milk has been condemned. When cows were found to be giving tuberculous milk and were condemned they were not sent into the market if it could be avoided. In the year 1910, in his own experience, he succeeded in getting slaughtered in his presence every cow which he had condemned as suffering from tuberculosis, and each cow was inspected on the conditions laid down by the Local Government Board as to whether the meat was fit for food or not. If fit for food every facility was given in the way of disposing of it. The offence, so far as Manchester is concerned, is not so much a question of a man having a tuberculous cow as not deciding to kill it.

With regard to the appointment of municipal veterinary officers, it was gratifying to know the part which the society had played. They must also thank their friends—the medical profession—for their help. Some twenty years ago a deputation from the Medico-Ethical Society waited upon the City Council and impressed upon them the necessity of appointing a veterinary officer. The Chairman of the Society at that time was the late Dr. Ashby, who was a keen and sincere admirer of the veterinary profession in all its phases. There was present with them that night in Prof. Delépine an admirer of the profession whose work on their behalf they could never fully thank him for. He felt sure that the Professor's interest in the profession would never wane.

In conclusion, he wished to remind members of the coming visit to Manchester of the National Veterinary Association, and their duty in making the visit a complete success.

The usual toasts to "The Visitors" and "The Ladies" concluded the list.

The *Ottawa Evening Journal* of Feb. 6 says: "It is learned that Hon. J. G. Rutherford, Chief Dominion Veterinarian, has handed in his resignation to Hon. Martin Burrell, and will go to British Columbia. It was thought that Dr. Rutherford would reconsider his determination to drop out of the service; however he has decided to retire to private life. Dr. Rutherford has been a valuable servant to Canada, and his retirement will be generally regretted."

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Out-breaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended Mar. 9	33		34				4	17	116	212	7	56	679
Corresponding week in	1911	13	15	47	1	12	3	7			13	42	527
	1910	38		30			7	13			8	29	122
	1909	25					9	48			21	23	250
Total for 10 weeks, 1912	262		299				36	79	1316	3134	128	588	7535
Corresponding period in	1911	212	240	379	1	12	45	171			263	349	3896
	1910	312		370			68	198			252	232	1661
	1909	277					105	308			333	286	2310

* Counties affected, animals attacked: London 15, Stafford 1, City of Edinburgh 1.

Board of Agriculture and Fisheries, Mar. 12, 1912.

Outbreaks

IRELAND. Week ended Mar. 9	...	...	...	...	...	...	1	14	3	31
Corresponding Week in	1911	...	...	...	...	...	3	9	4	102
	1910	...	...	...	...	...	3	22	1	13
	1909	...	...	...	...	...	3	19	3	46
Total for 10 weeks, 1912	...	1	1	...	...	...	24	181	20	245
Corresponding period in	1911	3	3	...	...	...	25	178	30	583
	1910	4	6	...	...	...	20	213	7	228
	1909	1	1	...	...	...	25	184	8	59

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Mar. 11, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

PARLIAMENTARY.

VIVISECTION OF DOGS.

In the House of Commons on Monday, March 10th.

Sir F. BANBURY (City of London, Opp.), moved:—
 "That in the opinion of this House no operation for the purpose of vivisection should be performed on dogs." The hon. baronet said he was not opposed to vivisection on other animals, but his contention was that the dog, as peculiarly the friend of man above all other animals, should be immune from the torture of experiments. He quoted from the Report of the Royal Commission to show that there was not a consensus of opinion among eminent surgeons and physicians that it was either right or necessary to use dogs for this purpose.

Col. LOCKWOOD (Essex, Epping, Opp.) seconded the motion. As a member of the Royal Commission he said that he was one of those who objected to dogs being used for the purposes of vivisection. He laid stress on the fact that the evidence submitted to the Commission showed the wide diversity of opinion prevailing among doctors and scientific men as to the need for carrying out experiments on dogs. He maintained that the evidence of distinguished physiologists went to show that though the House might be slightly in advance of scientific opinion if they passed the resolution of the hon. baronet, the great preponderance of opinion was in favour of exempting dogs. The House would, in his opinion, be acting well within its province if it adopted the resolution.

Mr. McKENNA said that a Royal Commission had been investigating this subject for six years, and its report had appeared for the first time that morning.

He had only had an opportunity of perusing that report very cursorily, and he told the House at once that the motion placed him in great difficulty, for he was asked to agree to an expression of opinion which would lead to a reversal of the policy of his predecessors for a great many years past. If he could be convinced upon the evidence, considered in the light of such advice as he could obtain from the experts at the Home Office, he did not know that he should hesitate to support a Bill having for its object the carrying out of the hon. baronet's policy. To accept or reject the motion would be to prejudge the report of the Royal Commission. He hoped the hon. baronet would not press his motion, but, if he did, he could neither vote for nor against it. Whatever the decision the House came to it should be understood that the motion only dealt with the limited question whether dogs should or should not be excluded from vivisection.

Mr. GUINNESS (Bury St. Edmunds, Opp.) said the evidence was overwhelmingly in favour of dogs being allowed to be the subjects of vivisection subject to the present restrictions.

Wednesday, March 13th.

THE BOARD OF AGRICULTURE.

On the report of the Vote for the salaries and expenses of the Board of Agriculture and Fisheries.

Mr. MOUNT (Berks, Newbury, Opp.) complained of the delay in making the grants to agricultural colleges and institutions and the hindrance thereby caused to experiments and research being carried out.

Capt. JESSEL (St. Pancras, S., Opp.) drew attention to the financial difficulties of the Royal Veterinary College, and pleaded for more substantial support from

the Government in the interests of students and the treatment of animal diseases.

Mr. A. HERBERT (Somerset, S., Opp.), as representing a constituency which had suffered severely from the disease urged that hard and fast regulations should give way to exceptional circumstances in the situation of a farm. The fifteen miles radius was not always a necessary safeguard.

Mr. RUNCIMAN (Dewsbury), in replying to several questions, mentioned that the amount of the grant for research work to the Royal Veterinary College was £1390. He had recently received a deputation from the College, and the views put forward were under consideration.

THE REGISTER FOR 1912.

We may commence a brief notice of this year's Register by saying that it continues to show the steady extension and improvement which we are now accustomed to expect and to see in it. For the third year in succession, it is published from the office of the R.C.V.S., and its price is the same as before, 3/6, post free. But it has increased somewhat in size—442 pages as against 424 last year—and there are several noteworthy additions. One is quite a novelty—viz., copies of all the written questions set at the three professional examinations held in 1911; and it is possible that this new feature may lead some students to become purchasers.

The other additions are all legal in character. There are copies of the Diseases of Animals Act, 1909, and the Notification of Diseases Order, 1910; and also two short extracts from the Protection of Animals Act, 1911, and the Coal Mines Act, 1911, respectively.

All these are of real importance to the working practitioner.

As usual, the lists have been revised, and we have now only 3417 members against 3423 last year. The number of registered practitioners is 226 against 244 last year—a surprising small reduction, considering the age that most of them must have reached. One or two minor improvements in connection with the lists should be mentioned—a useful explanatory note at the head of the members' list (p. 131), and a more valuable piece of information above the Canadian list (p. 355) to the effect that certain provinces of the Dominion impose a special examination upon veterinary surgeons before permitting them.

Last, but not least, these are fully twenty-four names listed under "Addresses wanted." All these names, in default of information, will be removed from next year's Register; and thirteen have been thus removed from the present one. We call the attention of members sharply to this; we cannot do more.

A MANUAL OF POISONOUS PLANTS. Chiefly of Eastern North America, with Brief Notes on Economic and Medicinal Plants, and numerous illustrations. By L. H. PAMMEL, PH.D., Professor of Botany, Iowa State College of Agriculture and Mechanic Arts. In two Parts. Pp. x + 977. (The Torch Press, Cedar Rapids, Iowa).

Botanical toxicology has so far not received its due meed of attention from authors writing from the veterinary point of view. Most text books upon veterinary medicine devote some space to it, but necessarily not much. A fair amount of matter relating to it is scattered throughout the scientific journals of the world; but the bulk of this is quite inaccessible to the ordinary reader. Hitherto we have had no single large treatise

devoted exclusively to the subject; and the work before us therefore comes to meet a real need. We may at once add that it does so more than adequately.

The work is divided into two volumes of very unequal size, the first containing 150 and the second more than 800 pages. The first might fairly be called a comprehensive survey of botanical toxicology, and the second an encyclopedia of toxicological botany. The first volume commences with a historical review, and then proceeds to deal in detail with the toxicology of the different classes of plants, concluding with chapters upon the classification of poisons, symptoms, and antidotes, the chemistry of vegetable toxicology, and a catalogue of the chief poisonous plants of the United States and Canada.

The second volume naturally opens with a key to the plant kingdom; and this is followed by some 640 pages describing the various families from Myxothallophyta upwards, with special attention to poisonous or injurious species. The classification is arranged in the order given by Engler and Prantl in their work *Die Pflanzenfamilien*, and flowering plants are described more fully than the lower forms. Some 60 pages are then occupied by a catalogue of the poisonous plants of the world, and then with an excellent bibliography and index, both necessarily very long, conclude the work.

It will thus be seen that the author has undertaken a stupendous task, and he has increased its magnitude by placing the widest interpretation upon the word "poisonous," and including many plants of doubtful or only occasional toxicity. This is an error upon the right side, but it greatly increases the size and complexity of the work, as does also the inclusion of many microscopic organisms such as bacteria, aspergilli, and dermatophytes. In fact, the book covers so vast an amount of ground, and represents so much reading and research, that it is best to treat it as a whole, and so summarise its value without any criticism of details. Admittedly it is largely a compilation. Hundreds of authors, chiefly American and German, have been freely drawn upon and quoted; and similarly the very numerous illustrations—about 17 plates and some 500 figures—are largely derived from other reliable American and Continental sources, though a good many are original.

A great deal of borrowing, however, is imperative in such a work; and we may say broadly that extracts and figures are well chosen, and that the original portion of the text is excellent in every respect—well arranged, clearly and concisely written, and not overburdened with technicalities.

On the whole, then, we may thank Prof. Pammel and the numerous collaborators whose help he acknowledges for the best book of its kind which we know of in this language. We have many good books upon botany pure and simple, but not upon toxicological botany; and we need only add that the present one, giving very special attention to the subject from the veterinary standpoint, will be much more useful to the veterinarian than to the physician. One factor which may militate against its success is that its scope may be thought to exceed the requirements of the general practitioner—but that, again, is an error upon the right side.

W. R. C.

There is some talk about establishing a national testing station for cattle intended for export. One would have thought the health of the people at home would have received priority of consideration, especially when medical officers of health are so insistent in dinning into our ears the awful terrors of unsound meat. Untested, uncertificated, unwarranted animals are good enough to sell to the British butcher.—M. T. J.

Watered Oats.

At Croydon a special sitting was held for the hearing of summonses taken out by the Board of Agriculture against Henry Leslie Hall, of Whitehorse Road, Croydon, for applying and causing to be applied a false trade description to 100 quarters of 40 lb. Plate oats to which an amount of water had been added, and for selling the cereal to Messrs. Hall and Co., Croydon, Ltd. Mr. Graham Campbell (instructed by Mr. Percy Nicholls) appeared for the Board of Agriculture; and Mr. J. George Joseph (instructed by Councillor Wood Roberts) defended.

Mr. Campbell told the magistrates that the defendant was a corn and forage contractor, and it was alleged that he had committed an offence under Section 2 of the Merchandise Marks Act, 1887. In two summonses it was alleged that the defendant applied to certain goods a false trade description, and in another that he caused to be applied a false description by describing, in an invoice despatched to the buyer, certain oats, which were properly known as damped or watered oats, or prepared oats, as 40 lb. Plate oats. The penalty was a term of imprisonment not exceeding four months, or a fine not exceeding £20. The case was one of considerable importance; large quantities of oats were imported into this country from the River Plate district of South America, and either sold in their natural state, in which case they were properly described as Plate oats, or 40 lb. Plate oats—40 lb. meaning weight per bushel—or if water was added it was the custom of the trade that they should be described as damped, watered, or prepared oats. Messrs. Hall and Co., Croydon, sent to defendant an order for 100 quarters of best Plate oats at 20s. 9d. per quarter, and the oats were received, followed by invoices describing the purchase as Plate oats.

In a letter to the Board of Agriculture defendant admitted that the oats were damped Plate oats. In ordering oats counsel said defendant asked for "Plate oats," which he suggested meant prepared oats, and then invoiced them as 40 lb. Plate oats. Samples analysed contained from $4\frac{1}{2}$ to 5 per cent. more water than sample genuine Plate oats. Therefore, Messrs. Hall and Co. really got ninety-five quarters of oats and five quarters of water.

Mr. George Walter Roffey, a member of the committee of arbitration of the Corn Traders' Association, said oats grown in the River Plate district sold in this country in an artificial state were described as Plate oats, and such oats artificially prepared as watered or damped oats.

Cross-examined: It was common to wash cereals coming into this country. He did not sell washed oats. He admitted that Egyptian oats arrived with a great deal of earth upon them, and that Russian oats contained more water than Plate oats.

Albert Daniell Howell, of Messrs. Howell and Co., corn merchants, of Bankside, S.E., of twenty-eight years' experience, said dealers sold damped oats to make larger profits, and he warned customers against buying them.

A delivery clerk in the employ of Messrs. Vogan and Co., of Dockhead, said in January defendant was buying damped Plate oats of them. They were undoubtedly very much better for feeding horses, and River Plate were preferred in that way.

Mr. Joseph submitted that there was no case to answer. It was admitted that the defendant supplied Plate oats, and that they were 40 lbs to the bushel. Would it be a false description of himself, asked counsel, to say his name was not Joseph, because he had had a bath that morning? (Laughter.)

The Bench decided that the case must proceed.

Defendant, giving evidence, said his price showed a profit of 6d. per quarter. His price for unwashed oats would have been 22s. He found his customers preferred damped oats. It had been held in a previous case that these were River Plate oats, and he thought it was a right description.

The Bench decided to convict, and fined defendant £5, with taxed costs.

Notice of appeal was given.

A pedestrian who is tossed by a cow has no redress. This dictum was laid down at Grimsby last week in a judgment arising out of a claim for damages against a local butcher by a cycle maker who was tossed by a cow and sustained concussion of the spine and other injuries. His Honour said he found that the weight of cases favoured the butcher. There were two kinds of animals; those of a fierce nature and those of a quiet nature. In the latter class were included cows, oxen, horses, and most domestic animals, and the law entitled the owner to drive them along the streets without taking any special precautions against their doing evil. The law dated from purely agricultural days, but in modern times the public thoroughfares had become busy and various kinds of vehicles had been introduced. He had, however, to interpret the law as he found it, and it was with regret he gave judgment for the defendant.—*N. B. A.*

Donations to R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donation to the College funds from:

Maj.-Gen. F. Smith, Westcombe Park, S. E.	£1	1	0
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OBITUARY.

JAMES FINGZIES, M.R.C.V.S., Elm Cottage, Lochgelly, Fifeshire. Graduated, 1860. Edin: Jan. 1880.

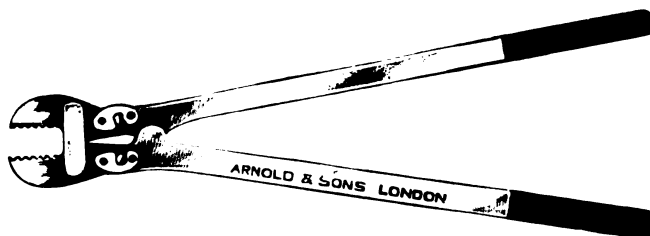
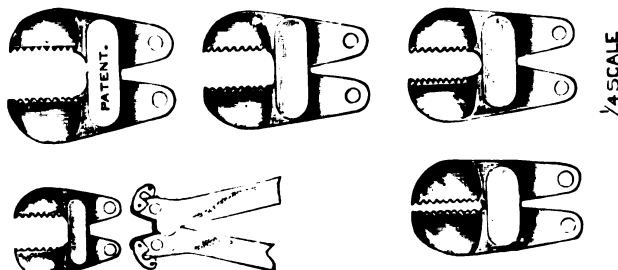
Mr. Fingzies died at his residence on March 11th, from cardiac failure. Aged 75 years.

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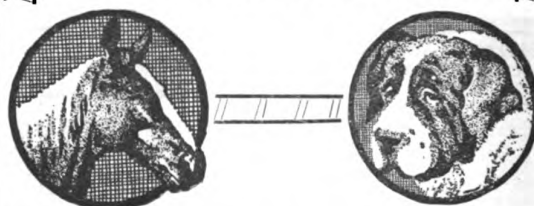
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MARCH 23, 1912.

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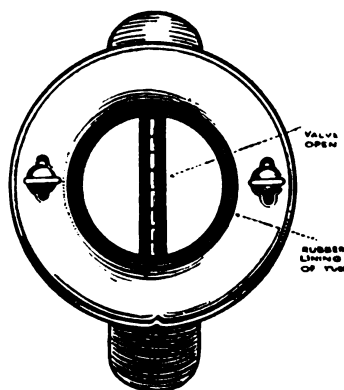
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A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1237.

MARCH 23, 1912

VOL. XXIV.

GENERAL ANÆSTHESIA.

Mr. J. Basil Buxton's recent article upon the "new" method of administering chloroform by passing chloroform vapour through warm water should be noted by the profession. The mere idea of administering chloroform vapour in the heated condition is not extremely new; but the present somewhat elaborate technique and apparatus for the procedure are recent developments. The method is still quite in the experimental stage as applied to animals; but Mr. Buxton's results certainly seem highly encouraging, and it is well for us to pay serious attention to this and every other modern development of the methods of anæsthetising human beings.

The subject of general anæsthesia has advanced a great deal during recent years within the medical profession. The dangers of anæsthesia are better understood and more carefully guarded against, and the technique of the procedure is more minute and accurate than ever before. Naturally this has entailed an increased demand upon the skill and knowledge of the individual anæsthetist. Anæsthesiation is becoming more and more a specialty amongst medical men, and now affords employment to an increasing number of graduates who are justly called professional anæsthetists. For obvious reasons, we are not likely to possess a similar body of veterinary anæsthetists. In our work the practitioner is more often forced to superintend the anæsthesia and operate at the same time than able to engage a colleague to anæsthetise for him. For that reason alone it is incumbent upon every man in practice to follow the latest developments of anæsthesia in the hands of its specialists in the medical profession.

Probably the application of this particular method to animals will be best worked out inside a veterinary school, and it is a hopeful augury that Mr. Buxton is working under those conditions. Further results may be very valuable, for there seems to be no reason why the method should not be adopted in most veterinary practices, in the case of the smaller animals at least. Its one disadvantage, viz., that its technique and apparatus are more complex than those of older methods—should not be insuperable; and it seems to have very real recommendations on the score of efficiency and safety.

Perhaps, also, it may permit of some simplification in its adaptation to veterinary use; though it will always be more complicated than the old procedures. As it stands now, it certainly merits much more than passing notice; and, when full details of its technique are before the profession, it ought to have a careful and extended trial in general practice.

A CASE—TREATED WITH ANTI-STREPTOCOCCAL SERUM.

By E. ALFRED WEST, F.R.C.V.S.

Subject.—A chestnut, four-year-old gelding, of the Yorkshire coach horse type, purchased in that County by a well-known firm of whisky distillers in London for their town vans.

Upon arrival from the country the animal was found to be off feed, and to have a temperature of 104. The stable superintendent treated it for some days before I was called in, about the middle of last month.

I found the patient listless, with no appetite, a temperature of 105, a very markedly yellow discolouration of the visible mucous membranes, more particularly the conjunctivæ, and a laminitic lameness of both front feet. The respirations were normal, and I could detect no abnormal chest or heart sounds, nor was there any cough or nasal discharge.

For four weeks these symptoms persisted. Every day I looked for some concomitant or sequel, expecting hydrothorax or lung gangrene, pericarditis, or cardiac muscle failure. There was, however, little or no change until the end of the fourth week, when the patient began to show signs of emaciation and exhaustion.

The treatment during the whole of the four weeks was stereotyped, and included poulticing of the feet, salines, salicylates of soda, digitalis, and quinine. Nourishment in the form of whisky, or stout, and eggs, were given regularly, and fortunately the patient was an easy one to drench.

About this time two or three small swellings appeared in the submaxillary space, and I endeavoured in the usual way to encourage suppuration of them. But they matured slowly and unsatisfactorily, and my hopes of the case resolving itself into one of strangles were not completely realised. My diagnosis was one that everyone would have made—that the patient was suffering from streptococcal infection. I therefore procured two doses of anti-streptococcus serum and administered two at intervals of forty-eight hours. The effect was magical. The temperature which for five weeks had ranged from 105 to 106 dropped 12 hours after the first injection to 102, and two days later, or 24 hours after the second injection, to normal, the lameness disappeared and the appetite returned. A week later my patient was fresh and well. This case, it seems to me, is sufficiently encouraging to record.

I seldom have treated one whose temperature remained so high for so long without some untoward

result, and it must be remembered that it was at the most critical stage of its life; at the period when its system was undergoing those mysterious changes which are associated with transition from country to town. It bore, too, evidences of having been specially prepared for sale, but must, I take it, have had more than its share of inherited or acquired vitality.

INVAGINATION OF THE STOMACH AND SPLEEN IN THE ŒSOPHAGUS.

By WM. PAUER, M.R.C.V.S., Blackwater.

Subject.—Newfoundland dog, two years old.

Previous History.—Had been in owner's possession from a small puppy; at which time I had treated him for gastritis in consequence of his frequent attacks of vomiting. Ever since vomiting had seemed habitual to the dog; and had not appeared to interfere with his condition and spirits. On Feb. 28th he was in his usual health, and the following morning was found dead in his kennel.

Post mortem.—As poison was suspected I opened the abdomen to examine the stomach, and was much surprised at not being able to find it. I thereupon concluded that there was a rupture or hernia of the diaphragm, and that the organ would be found in the chest cavity. On dividing the sternum and exposing the heart and lungs, a large cylindrical swelling was observed, which, on closer examination, proved to be the œsophagus with the stomach turned inside out and the spleen inside it. The stomach itself was black in colour from strangulation, and so much swollen that traction from the duodenum would not withdraw it. The entire œsophagus was removed and slit up, and the width measurements were as follows: Four inches pharyngeal end and nine and-a-half inches at a distance of ten inches from the cardiac end, where it again measured four inches.

Remarks.—The case is in my experience unique, the dog having actually "brought his stomach up." Dilatation of the œsophagus had evidently been in existence for some considerable time; but, whether this condition accounted for his constant vomiting, or whether it was caused by chronic gastric catarrh I am unable to say, as the extreme discolouration of the mucous membrane made any hypothesis merely supposititious.

ABSTRACTS FROM FOREIGN JOURNALS

THE DIGESTION OF CASEIN.

Gaucher, who has previously shown by experiments upon dogs with fistulæ, that the casein of the milk passes through the stomach without undergoing peptonisation there, has been able to check his results by observations upon a human subject, fourteen years old, who was affected with a fistula in the jejunum. He now reports (*Le Mouvement hygienique*) the result of these latter observations, which are as follows:—

The milk arrives in the jejunum twenty minutes after being swallowed. At first it flows in the natural condition; then, after some minutes, in the form of whey mixed with large clots of casein. Forty minutes after ingestion the clots gradually become smaller, and the liquid speedily becomes homogeneous. At this moment it holds in suspension the particles of casein which the stomach has first coagulated and afterwards finely divided. Moreover, the hitherto white liquid is now coloured yellow by bile, which appears and continues to flow abundantly, carrying with it the last drops of milk.

These three phases are those already described by the author in the digestion of milk in the dog, and lead to the same conclusions, which are as follows:—

(1) The milk arriving in the stomach is only coagulated there a moment afterwards, where the gastric juice has been secreted. A portion of it passes the stomach in the liquid condition; the remainder coagulates in the stomach, and the clots thus formed are gradually dissociated and reduced to very fine particles by the contractions of the organ. This is, it seems, the sole role of the stomach. Peptonisation only takes place in the intestine, and even there only after the duodenum has been passed.

(2) The coagulation of the milk in the stomach is not necessary to its digestion. It even appears to be merely accidental, for a portion only of the milk is coagulated there. Far from being useful, the process may be injurious to digestion when the stomach is not capable of effecting the contractile movements imposed upon it.—(*Annales de Méd. Vét.*)

LUMBAR PUNCTURE IN THE DOG.

An article by Lepinay (*Revue de Pathologie Comparée*) is devoted to this subject. Lumbar puncture has become a common operation in human medicine, but not in veterinary medicine. Nevertheless, the results obtained in man from evacuator punctures and the intra-rachidian injection of therapeutic agents warrant the hope that these measures may be very valuable in canine medicine in the meningeal or medullary complications of distemper.

The technique based upon anatomical data is as follows: The puncture may be made without any apprehension in the lumbo-sacral space, and also, with some precautions, in the sixth lumbar intervertebral space. In the case of a large dog, in which the rachidian canal has a sufficiently great supero-inferior diameter, and in consequence a dural sac large enough to contain the orifice of the needle in its entirety, the sixth intervertebral space is chosen. When, on the contrary, the dog is small, the lumbo-sacral space is punctured.

The apparatus consists of two syringes (which should be of glass to facilitate the immediate examination of the liquid which is withdrawn), one serving for aspiration and one for injection, and two needles or trocars having a diameter of less than a millimetre and a length of from 6 to 7 centimetres (= 2 2-5th- 2 4-5th inch). All these must be sterilised.

The position in which the animal is placed varies with its size. A large dog is placed on its side upon the table, and is held with the spine arched. A small one is placed in a sitting position by holding the hind quarters. This position has the advantage of assuring the escape of the cephalo-rachidian liquid without the necessity for aspirating it. Immobility being a condition essential to success, the operative region may be subjected to local anæsthesia.

To perform the operation the surgeon places himself behind the dog, and paints the previously shaved lumbo-sacral region with tincture of iodine. With the left hand he feels the seventh lumbar vertebra, and then, with one finger, he localises the depression situated above or below it, according to his projected plan of operation. If he intends to penetrate the sixth intervertebral space, he drives in the trocar vertically to arrive directly upon it. If it is well directed, only a slight resistance (offered by the intervertebral ligaments) is encountered. The trocar is driven in from 4 to 5 centimetres (= 1 3-5th to 2 inches) in large dogs, and from 2 to 3 centimetres (= 4-5th to 1 1-5th inch) in small ones. The lumbo-sacral puncture varies a little in its procedure from the foregoing. The surgeon feels the small spinous apophysis of the first sacral vertebra, and drives in the trocar at this point, but very obliquely.

The quantity of liquid withdrawn varies with the age and size of the subject, and with the disease. In practice the author has never exceeded 10 c.c. (= about 5iiss).

When a fluid is to be injected a certain portion of the cephalo-rachidian liquid is always withdrawn. This is mixed in the syringe with the agent to be injected, and then the injection is made slowly. After the operation is completed the needle is withdrawn, and tincture of iodine is applied to the puncture-wound.

The accidents which may occur during or after the puncture are as follows:—

(1) The needle or trocar may break in the case of refractory animals.

(2) If too much liquid is withdrawn, or a larger quantity is injected than has been withdrawn, torpor or agitation may follow.

(3) Slight lesions of the rachidian nerves may cause symptoms of paresis of the hind-quarters.

The indications of lumbar puncture and of rachidian injections are many. The operation should always be practised when cerebral or medullary disturbances are met with. The evacuatory puncture will not only be an excellent diagnostic procedure (permitting cytological and bacteriological examinations), but it may also bring about a sensible amelioration, either by the elimination of toxic liquid or by the injection of modifying agents.—(*Annales de Méd. Vét.*) W. R. C.

SEQUELÆ OF GUNSHOT WOUND.

A policeman believing a St. Bernard dog was rabid, shot it, afterwards some passers-by beat it with sticks as it lay. The bullet passed through the upper jaw, the entrance was between the eyes

and the nose, and the exit at the root of a front tooth which was shattered by it, the bullet penetrating the lower jaw and breaking a tooth. There was slight hæmorrhage from the nose, there was a hands-breadth of swelling round the wound. The dog was comatose with open eyes, it groaned and whined as if dreaming. Temperature normal. It was roused with difficulty and looked around in a vacant manner. It did not respond to its name, it fell after going two steps and could not rise, and quickly fell asleep. It swallowed milk from a bottle and defæcation was normal. Probably there was concussion of the brain from blows on the head, while the shot was not dangerous.

Treatment—snow to the hot head, laxatives, and coffee. After two days sleepy condition it began to recover.

V.S. N. Foss, Ufa, Russia.

(Ex. *The Social Veterinary Record* from the author's original Esperanto).

F. E. P.

CENTRAL VETERINARY SOCIETY.

An ordinary meeting was held at the Royal College of Veterinary Surgeons, 10 Red Lion Square, on Thursday, March 7th, Mr. R. J. Foreman in the chair. The following Fellows signed the attendance book:—Messrs. F. C. Mahon, A. Payne, N. Almond, P. W. D. Smith, W. Perryman, R. A. Philp, D. Hamilton Wood, F. H. Sanderson, Guy Sutton, H. D. Jones, J. W. McIntosh, Prof. G. H. Wooldridge, James Rowe, D. Stewart, F. O. Parsons, H. Gray, R. Eaglesham, J. Willett, W. Hunting, S. H. Slocock, J. A. G. Gosling, W. Willis, W. D. Hallhead, R. F. Wall, Profs. J. Macqueen, H. A. Woodruff, and Hugh A. MacCormack, Hon. Sec. Visitors. Messrs. S. L. Slocock and P. V. Nicholas.

The minutes of the last meeting were taken as read and confirmed.

Letters regretting inability to be present were received from Messrs. Angwin and Coleman.

A letter was received from the Royal Counties Veterinary Medical Association, as follows:

"At the last meeting of the Royal Counties V.M.A. at Reading on Feb. 9th, the following resolution was proposed by Mr. Coleman, seconded by Mr. Willett, and was carried unanimously:—"That the Royal Counties V.M.A. most cordially support the Central Veterinary Society in the steps they suggest taking with the object of obtaining more justice in cruelty to animals prosecutions, especially in so far as such cases affect the professional evidence for the defence. They also heartily approve of a deputation waiting upon the Home Secretary and the Chief Commissioner of Police in the matter."

The PRESIDENT pointed out a slight mistake had been made in the letter as the deputation was not to wait on the Home Secretary, but on the Council of the R.S.P.C.A.

SPECIMENS.

The PRESIDENT exhibited the bladder of a bitch packed tightly with stones. There had been very little trouble until the last few days. He was called in, diagnosed the case, and the animal not being very valuable was destroyed. He tried hexamethalin-etetramine which was satisfactory to a slight extent.

He also exhibited a piece of stout wire that had been bent into a circle of about 7in. or 8in. in diameter that

had been found around the hind quarters of a dog from front of the prepuce to between anus and root of tail. It was completely buried under the skin right to the front of the flanks. The owners had been away, and the dog had been in the habit of jumping over the fence into the neighbour's garden. Owner's opinion was that the neighbours had put the wire upon the dog to prevent it doing this.

Mr. PAYNE said it had all the appearance to him of a snare, and he mentioned a case he had had in which the wire was between the foot and the next joint, and the case had been treated by two veterinary surgeons for six months.

The PRESIDENT said that in a snare there was a slip, but in this case the wire had been tightened up, twisted, and cut off.

Mr. PERRYMAN showed a fractured pedal bone from a mare which he was called in to see for an injury to the opposite foot. The feet were very brittle and shell-like. There was no suggestion whatever in the hoof of any great damage at any particular time. The mare had itchy legs and the accident was probably due to stamping. There was a fracture at the base with very complete union. Evidently the injury had taken place some long time since.

He also exhibited the os coronæ, broken transversely, from a horse which had gone lame. It was evidently foot lameness. As the animal was not worth prolonged treatment it was destroyed. There was no history of the case except that it fell suddenly lame.

ELECTIONS AND NOMINATIONS.

Messrs. W. E. BLACKWELL, M.R.C.V.S., Towcester; and T. W. LLOYD, M.R.C.V.S., Aldershot, were unanimously elected Fellows of the Society.

Messrs. A. E. SANGSTER, H. KEELING-ROBERTS, and H. ANDREWS were nominated for Fellowship.

TREATMENT OF VETERINARY SURGEONS AT POLICE COURTS.

The SECRETARY read the letters drafted by the Committee appointed at the last meeting, and the replies received from Sir Edward Henry and the Secretary of the R.S.P.C.A. as follows:

"In reply to your request Sir Edward Henry desires me to say that he will have pleasure in receiving a small deputation on Wednesday next the 13th inst., at 3 p.m. if day and time will be convenient to you."

"I beg to acknowledge the letter from yourself and other Fellows of the Central Veterinary Society, with reference to our Inspectors, addressed to the Council of this Society. I shall have much pleasure in laying the matter before the Council at their next meeting on 13th March and will write to you further on the matter."

The PRESIDENT thought the replies were very satisfactory, and that the Committee should appoint a deputation to see Sir Edward Henry. He had thought the Council of the R.C.V.S. might be approached on the matter, and also be asked to take action regarding the conflict of professional evidence, but it had been decided to leave it over to see what came of the action already taken.

It was agreed the Committee should appoint a deputation of its own members to wait upon Sir Edward Henry.

STATE ACTION WITH REGARD TO TUBERCULOUS MEAT AND MILK.

There was an item on the agenda to consider certain resolutions with regard to State action in connection with Tuberculous Meat and Milk, contained in a circular forwarded by the Association of Veterinary Officers of Health.

The PRESIDENT said Mr. Mulvey, who asked for the matter to be placed on the agenda, was not present. The Association asked for the support of the Society in the matter. It was such an important thing that he thought support ought to be given wholeheartedly.

Mr. PAYNE thought the most important thing was left out of the resolutions, namely, the destruction of all old cowsheds. He proposed that the resolutions should be supported.

The PRESIDENT thought that destruction of old cowsheds was covered by Clause 3.

Mr. McINTOSH was prepared to second the resolution with the proviso that the support should be confined to the principle and not to the details, because he thought there were certain sweeping suggestions in the resolutions which some Fellows might not agree with.

Mr. HUNTING said he would second the motion if the mover would leave out Clause 3 which provided for the building of sanitary buildings, which was far too big a job to take on.

Mr. PAYNE did not see how anything could be done unless proper buildings were put up in substitution for the old ones.

Prof. MACQUEEN moved to proceed to the next business.

The PRESIDENT said that meant the communication would lie on the table.

Mr. J. WILLETT said he would second the motion. Clause 3 was a controversial matter, but the resolution was all right.

On the motion being put it was carried.

SOME EFFUSIONS AND TRANSUDES COMMONLY MET WITH.

By GUY SUTTON, F.R.C.V.S.

Transudates and exudates are of very common occurrence, and I venture to think a discussion of their treatment may be profitable. In horse practice "fluid within the chest" is common, always alarming, and its range of treatment somewhat varied, and prognosis may fairly be described as speculation. The onset is insidious and I have a genuine respect for the ability of the veterinary practitioner who can diagnose the condition in its early stages. Many cases undoubtedly subside and clear up under the influence of anti-febrile and counter-irritant treatment. Some don't. Now, gentlemen, having early diagnosed the presence of fluid within the chest, what would you advise? Is it best to puncture promptly before much accumulation has taken place, and so endeavour to limit the intra-thoracic disturbances and displacements which ensue? or shall we wait, watching the general symptoms carefully.

Ten years of clinical work, many spent in a practice where tapping was fairly frequent, has taught me that the chest is capable of putting up with a fair amount of surgical interference.

Paracentesis thoracis performed with a trocar and canula of fine calibre and sufficient length, suitably sterilised (boiling on the harness room fire seems as good a method as any) and introduced through the chest wall, which has previously been freely painted with tincture of iodine, is undoubtedly the surest way of diagnosing the presence of fluid, and in my experience can be performed with impunity.

In favourable cases, and I speak with records of nearly twenty, the removal of fluid varying in amount from a few pints to over two stable bucketsfull is followed by the immediate onset of favourable symptoms. The animal's condition steadily improves, and we have probably all met with cases of perfect restoration followed by years of hard work and activity. Sometimes even a second or third puncture may be followed by re-

covery, but our prognosis in all cases where a re-accumulation takes place is grave.

Why is it that our percentage of death in horses suffering from thoracic effusions is so high?—and I think it will be readily admitted that it is high.

What improvements can we make in our treatment? Are we, as a rule, rather too late in attempting to drain off the fluid—would earlier tapping prove more beneficial?

What is the essential element which determines whether our patients will recover after the removal of fluid or, as an alternative, ordains its persistent re-accumulation?

Sir James Barr advocates the injection of adrenaline solution into the pleural cavity after the removal of fluid. I have tried this, but have noticed no marked effect, but must admit not having adopted the treatment systematically. I have also injected a drachm of Lugol's solution of Iodine through the canula before withdrawing the fluid, but after having positively ascertained its presence in abundance, and allowing ten or fifteen minutes to elapse to ensure distribution through the fluid before withdrawal. This, as far as I could see, was well tolerated, but again I have not made it a routine practice. Möller's surgery mentions washing out the pleural cavity. Has any member tried this?

Personally, I think our cases of satisfactory recovery will generally be found to be those in which the pleurisy is primary, and not those secondary to or associated with pneumonia. The latter are distinctly disappointing.

In the dog the presence of fluid within the chest is not quite so alarming. Possibly because it may the more readily be confined to one side of the chest, and also that even a partial restoration to activity will completely satisfy the majority of owners. A marked symptom in the dog is the backward displacement of the apex beat of the heart, but the surest means of diagnosis is undoubtedly with a fine aseptic canula or hypodermic needle, with the usual precautions—and the owner's consent. The dog stands repeated tapping well. Injections of adrenaline are distinctly beneficial. Personally I have always used the Parke-Davis preparation, allowing it to be diluted by the fluid left within the chest, which I find it is impossible to entirely empty by the usual methods employed.

I should say a primary pleurisy unaccompanied by pneumonia is the more common in the dog. The reverse being the case in the horse.

Empyema is, as far as I know, always fatal in the horse, but perhaps there are some unrecorded cases of traumatic origin that have recovered. The dog is capable of recovery from punctured wounds into the chest, and it is hard to imagine these can have occurred without suppuration, but it is doubtful whether many recover when the infection spreads from the lung.

The British Medical Journal has lately published a report of 40 cases of pleurisy with effusion treated by means of a drug called Maretin; perhaps we shall hear reports of this treatment in Veterinary practice. The article in question was quite encouraging. As a profession we are distinctly handicapped in this disease, for undoubtedly its early diagnosis offers distinct difficulties.

Why is it that Ascites is so rarely seen in the horse, though fairly common in the dog? At the Berlin Clinique one in every two hundred of all canine patients were affected in this way. Equines appear to be liable to practically all the pathological conditions capable of giving rise to abdominal dropsy. Yet it is extremely rare, and the theory of cause and effect appears to be incomplete in their case. Possibly it is a distinction between the species due to their method of feeding. During the second half of the dog's life Ascites is frequent, and undoubtedly arises from several distinct causes. Tapping gives immediate relief; recurrence is

however only too common, and if a cure is effected the cause must have subsided or efficient compensation has taken place.

Cadiot says the chief cause of Ascites in the dog is tuberculosis. I am not in a position to deny this, but, with all respect, find it impossible to readily accept with regard to our London dogs.

The human surgeon when confronted with Ascites has in some recent cases obtained a check of the recurrence after tapping by bringing about an adhesion of the omentum to the abdominal wall, so promoting an anastomotic circulation, and allowing a free passage of blood from the portal into the systemic circulation, relieving the former of a considerable portion of its work. This operation is fully reported in a recent article as having been performed in Holland and in England by Messrs. Drummond and Morison. It is not successful in all cases, and in a few the operation was rapidly followed by an acute and fatal jaundice. I believe Mr. Henry Gray has operated in this way upon cats, and I have no doubt it will be frequently performed, but most of our patients with this complaint are old favourites, and one is loth to be too heroic in dealing with them.

Given a case of Ascites in the dog, What are we to do besides "tap"? I believe that in man great benefit is often derived from prolonged courses of digitalis. This, I think, is advised by Dr. Mitchell Bruce. Is there any evidence that Potassium Iodide, so often given, is of any real benefit?

There are several "areas of effusion" of traumatic origin occurring in horses which often cause us much annoyance, as frequently we are unable to restore the parts to an entirely satisfactory condition. I refer to capped elbow, capped hock, bumped knee, serous abscess, etc.

Why is it that the horse is so liable to throw out these effusions, and what is the best way of dealing with them? Capped hocks are most annoying, and clients are often at a loss to appreciate our difficulties in dealing with them. At one time I thought I had adopted a neat and correct treatment by keeping the patient standing, aseptically puncturing the swelling with a hypodermic needle of fine calibre, and enveloping the whole posterior aspect of the joint in a charge of Plaster of Paris. This process is certainly useful, and reduces the swelling, but does not completely take it away as I had hoped. Blistering the hock appears to be clumsy and is seldom entirely successful, whilst the insertion of a drainage tube is accompanied by some danger, and is pretty certain to leave at least cutaneous thickening. It is not a popular treatment, but I believe it to be good surgery.

Badly bumped knees, and the callosed enlargements on the outer side of the knee are also often most intractable. In the former I am sure a drainage tube is generally justifiable. Unfortunately with working horses it is often impossible to allow the necessary abstinence from work, the tumour is allowed to remain, and a most unsightly disfigurement it is.

What are we to do with the distention of the sheath of the lateral extensors often seen on the outer aspect of the knee. I have never been bold enough to operate in these cases, but have an uneasy feeling that a more energetic treatment would be justified, and might give better results than the palliation measures adopted by most of us.

Why is it that the Serous abscess so commonly met with in the horse as a result of falls, etc., practically always requires to be freely opened. However nicely and aseptically we remove the fluid with a canula of fine bore, it seems to always reaccumulate in the absence of efficient drainage.

I trust, gentlemen, you will give us the benefit of

your experiences and advise on the many debatable points I have mentioned, and will supplement this short and inadequate paper by an energetic discussion—generally the most welcome portion of the evening's proceedings.

DISCUSSION.

The PRESIDENT said about three weeks ago he was asked to look at a horse's teeth as it was falling off in condition. He found the teeth very uneven and cheeks lacerated, but nothing to lead him to suspect lung trouble. He had found that day (although horse worked on previous day) that there was a very great deal of effusion in the pleural sac.

In the treatment of dropsy he had found digitalis and iron to be of value, although incompatible, and it was a very old favourite with medical men. In his opinion it was as good as iodide of potassium.

Mr. H. GRAY considered the paper a concise and lucid exposition of the practice of tapping, and agreed with most of the remarks made, with one or two exceptions. Tapping was not always such an easy matter as Mr. Sutton seemed to infer. He himself had tapped two horses daily for a fortnight and been successful. If the fluid was clear and not putrid there was a very good chance of success, provided the operation was performed early. In some cases when a trocar was passed in and no fluid came out he pushed the canula towards the diaphragm, and that generally produced the fluid at once if any was there. He had failed in some cases to draw off fluid from dogs or cats, and yet post mortem had shown that fluid was there. With regard to ascites in the dog, he tapped two dogs for about two years once a fortnight, and towards the end found a difficulty in getting any fluid out of the peritoneal cavity. An interesting question was whether the pleural sacs of the horse communicated; he had seen several cases with pus or reddish fluid on one side of the chest and clear amber-coloured fluid on the other. The paper did not say anything of pericardial effusion, which was not uncommon in the dog. In his experience the majority of cases of the pleuritic, pericardial, and abdominal effusions in the dog and cat were due to tuberculosis. Chylous ascites was another effusion not mentioned in the paper. He had recorded a case in a cat sixteen or seventeen years ago, and had seen several cases since. The case recorded was sent to Sir John M'Fadyen, who could not find anything in the lacteal system to account for it. The fluid could only be told from milk by the fact that on centrifugalising it no cream was obtained. Five or six years ago, at a Veterinary meeting in Ireland several practitioners came to the conclusion that Chylous ascites was the commonest dropsical condition in the cat, but he could not say that was his experience. It also occurred in the dog, and was not rare in man. He did not paint iodine on the side of the chest or boil his trocar and canula; he merely put his instruments into a 5 per cent. solution of carbolic acid, which he found was quite sufficient to sterilise them; at least he had never seen any ill effects resulting from that simple practice.

Prof. WOOLDRIDGE asked whether Mr. Gray had any information to give on the operation producing anastomosis.

Mr. GRAY said his method was to cut into the abdomen, draw the omentum into the wound and stitch it there. It had been performed on the Continent by several veterinary surgeons, though it might be new in human practice in this country.

With regard to traumatic pericarditis in cattle, he had had a case in the country in which he wanted to take a piece of the rib out and to bring the pericardial sac to the wound and stitch it there. Unfortunately he could not borrow any instruments at the time, but he had an exploring trocar with him and ran it into the chest and showed there was a stinking fluid there, and he asked

for consent to do what he liked with the cow. Consent being given he ran a knife through the ribs into the pericardial sac and let out a lot of dirty, foetid greenish white fluid. He could not get his hand in to take out the piece of wire from the pericardial sac. The cow died four or five days after, and on post mortem he took the piece of wire out of the pericardial sac. He noticed nothing amiss with the pleural cavity, except an attempt on the part of the pleural and pericardial sacs to unite to the chest wall by an apparently healthy fibrinous adhesion. There was no fluid remaining in the pericardial or pleural sacs. With proper instruments and technique he thought such an operation would be successful.

Mr. PHILP asked which rib would he cut out.

Mr. GRAY said he would not cut the whole rib out, but only a portion, making a window. He did not think it mattered which rib it was so long as it was immediately over the region of the pericardial sac.

Prof. MACQUEEN asked how he would close the window.

Mr. GRAY said he would not cut away any of the soft parts or the pleural membrane. He would bring the remaining soft structures together, put in a drainage and then a pad over the wound, so that there was no inspiration of air.

He passed round for the inspection of the meeting the trocar and canula he used for tapping the chest of the horse, and even tapping the chest and abdomen of large dogs; also a finer exploring trocar used for the same purpose in the cat and dog. He condemned the large calibre instrument hitherto used in this country, and considered it accounted for many of the bad results formerly obtained.

Mr. SLOCOCK thought the paper was a most instructive one and would give rise to much thought. He had been specially interested in the remarks on the operation in the chest for the exudate. His cases perhaps had been unfortunate, but for several years past he had given up tapping the chest in the horse. He might have left it too late, as Mr. Sutton said. There was certainly a wonderful recovery for a few days when the fluid was removed, but the effusion started afresh. Directly he had a case he gave syrup of ferri iodide alternately with other medicines, perhaps a couple of doses daily, and in that way he thought he had warded off many bad cases of hydrothorax. He did not get the quantity of fluid in the chest he used to get, nor the number of bad cases. He thought the cases outside London, where there was plenty of fresh air, did better than those in closer quarters. He had adopted very much the same treatment in the case of the dog, but without very good results.

Prof. WOOLDRIDGE asked what dose of iodide of iron was given.

Mr. SLOCOCK said one ounce dose of the syrup, but he did not know the strength of the syrup. It was given in the drinking water, as he never drenched after the first.

Mr. GRAY said in his successful cases in contract practice he merely gave a placebo and the cases got well.

Prof. WOOLDRIDGE agreed with Mr. Slocock in connection with the tapping of the chest of a horse; the cases he had thought necessary to tap had nearly always proved fatal, and he had consequently lost faith in the treatment. Perhaps he had left it too late, but in any case his results were not encouraging. He had not met with a case of ascites in the horse that necessitated tapping at any time. With regard to dropsy in the dog, his experience did not coincide with that of Mr. Sutton, inasmuch as in the majority of his cases, where they had eventually come to post mortem, tuberculosis had been the cause in by far the majority of cases and generally associated with extensive liver affection. An exception had come under his notice during the past

week. A fox terrier, whose abdomen was tapped in December and well over a quart of fluid taken away, and which was treated with a purgative, and potassium iodide and digitalis, had no recurrence of the dropsy, but gradually lost condition, and was brought to him early in the present week to be destroyed. A post mortem was made afterwards and no trace of tuberculosis found in either cavity, but there was an old-standing interstitial nephritis, which he presumed was the cause of the ascites in the first place.

The treatment of ascites by producing anastomosis of the abdominal viscera with the parietal peritoneum was not new; it was performed on the human subject to his knowledge ten years ago. The cases in which he had been interested were due to cirrhosis of the liver and the anastomosis was produced between the anterior face of the liver and the posterior face of the diaphragm. The abdominal cavity was opened and the face of the liver scarified by an instrument that could almost be described as being like sandpaper. The margins of the liver were then sutured to the posterior face of the diaphragm and adhesion produced. Very considerable relief was reported to have been afforded by that operation in the human subject.

He had not attempted the operation in the dog. In two instances, where he thought it might be done, on opening into the abdominal cavity, he found extensive tuberculosis of the liver, and consequently regarded the operation as absolutely useless, and destroyed the dog. With regard to potassium iodide in the case of dropsy in the cavities of the body, he thought it would undoubtedly be of service if given in sufficient doses, in that it reduced the sensation of thirst and therefore reduced the intake of water. If potassium iodide had also the antiseptic action ascribed to it, since the dropical fluids were sometimes due to organisms of some kind or other it might have additional action in that way.

He had been interested in a considerable number of cases of local serous abscesses in the horse due to bruises, where there was no breach of the skin and yet there was pus in the cavities. Nothing but extensive opening appeared to be of service. What appeared to be pus in the majority of cases he thought was aseptic material due to the breakdown of connective tissue of the part from bruising, and the fluid was often due to extravasation of blood or plasma into the cavity. Sometimes it was possible to take out a piece of fibrinous lymph, occasionally bloodstained and occasionally not. In some cases he thought the fibrin of the coagulum was left and the fluid separated from it. One had to run the risk of sepsis by opening the cases rather than expect to reduce them by counter-irritation. He wished to thank Mr. Sutton for his concise, interesting and eminently practical paper.

Mr. W. HUNTING said he had no information to give except a confession of a series of failures, because every horse with hydrothorax he had tapped had died within three days. If it was a case of not tapping early enough the difficulty was to know what was early enough. It seemed to him there were two different effusions in the chest. One was a sort of passive effusion which did not show on post-mortem the bright scarlet appearance of the pleura which was found in acute inflammatory cases. He had thought that might be a more favourable case for tapping than others, but it was not. He took out on two consecutive days about a pailful of perfectly clear fluid and the animal died. In some cases the post-mortem showed that tapping or anything else could do no good. A horse might be found with his ribs covered with an inch of thick leathery exudate, and at the bottom of the chest floating in discoloured effusion there would be a number of pieces of tough fibrinous material sufficient to fill half a pail. He knew very little about ascites, which was due to two or three

very distinct causes. He had something to do with a stud of horses all of which got fatty livers before they died, and it would be thought that such a condition would be about as compressive upon the blood vessels as a cirrhotic liver, but in no case was there ever ascites accompanying the liver trouble. The cause of death in nearly all those cases was rupture of the liver. In every case all the ruptured livers were fatty to begin with.

Local serous swellings were most awkward things to cure: they could not be pressed sufficiently to cause them to absorb, and if opened they generally produced a very big leg. He had seen a windgall opened with a vertical incision aseptically, and the animal had a leg as big as four for over a month. He had seen a large leg result from the opening and setoning of a capped hock. How was it that serous abscesses always occurred on the thigh, just behind the stifle? They were simple to cure if treated by being slit from top to bottom, and very little deformity resulted.

Prof. MACQUEEN congratulated Mr. Sutton on directing attention to one or two points in general practice, and especially the treatment of effusion into the chest, because the line taken in the paper was much neglected in practice. He did not agree with the speakers who looked upon tapping the chest with disfavour, believing that the operation of tapping in most cases was too long delayed. There was a tendency in the veterinary profession to respect the chest too much. It used to be common teaching that when puncturing if air entered the chest it would produce collapse of the lung, but it did nothing of the kind, and the precautions very often observed in tapping the chest were entirely superfluous as far as air was concerned.

He would like to have heard explained a little more fully the various kinds of effusion met with in chest cases. He had never met with anything that could be called dropsy of the chest, pure transudation, not exudation. He also wished to know what variations might be met with in the character of the exudate which was found in the pleural sac. He desired to ascertain as far as possible what kind of fluid Mr. Sutton looked upon as most favourable in the practice of tapping. When he obtained a clear fluid did he consider that that was likely to be a hopeful case, or when the fluid was quite opaque, not pus, was that a hopeful sign? There was another condition—when there was difficulty in withdrawing fluid from the chest even by means of an aspirator, and pus was obtained. He presumed Mr. Sutton would consider that case beyond remedy. Many years ago, when he was more inclined to do extraordinary things, he was in the habit of washing out the horse's chest by making two openings. He tapped the chest about 9 in. behind the point of the elbow, and after withdrawing the fluid he made a second puncture as close to the spine as possible on the same side. In the upper opening he introduced a disinfecting fluid. At one time he used a solution of iodine and thought it rather a good remedy, but unfortunately the animals died. After substituting other agents he came to the conclusion that washing out the chest was not an entire success. With regard to the ordinary case, no doubt many Fellows recalled the story which used to be related by the late Dr. Fleming, who was an enthusiast in puncturing the chest. On one occasion he punctured a horse and removed three gallons of fluid, and the horse was ridden thirty miles after the operation. Dr. Fleming used to look upon tapping as quite a successful operation which everyone should attempt when fluid was in the chest—and he noted with considerable pleasure that Mr. Sutton said the only certain way of knowing when fluid was in the chest was by making an exploratory puncture. That was a commendable statement. Without tapping one could not say that the treatment of hydrothorax has been exhausted. If cases

of effusion into the chest were usually fatal, the mere tapping of the chest under aseptic precautions was not calculated to accelerate death: it was more likely to prolong life; and there was no doubt it frequently succeeded in saving life.

With regard to superficial swellings, such as capped hock and synovial distensions, there was no doubt that aseptic puncture was practised, but it was attended with a great deal of risk, and unless the patient was particularly tractable there was great difficulty in maintaining the part in the proper condition. The patience of the owner or of the veterinary surgeon had also to be considered. If one punctured a distended bursa and removed the fluid, closed up the puncture, and applied a compress or plaster, it must not be expected that there would be an immediate change for the better. The horse was bound to show some reaction at the seat of puncture, and for several weeks there would be no improvement, and in some cases no change would be seen before the end of the second month. After that, unless some complication had arisen, such as suppuration, there would be a marked change observed. The operation for chronic distensions had not met with the support it deserved, it was quite a useful operation provided the owner was told that there would be some delay before any great improvement could be expected. Practitioners who were in the habit of puncturing in a rough and ready manner seemed to succeed with nearly all their cases. They even punctured bog-spavin, which was really a penetration of the tibio-tarsal joint. Puncture of bumped knee was not always beneficial unless the horse could be kept in slings. The same remark applied to puncture of capped hock. The surgical features of the operation were not at all objectionable, but unfortunately, owing to the difficulty of keeping the horse perfectly still, there was not always immediate closure. Infection and movement were dangerous, and there was also a danger of recurrence of the bruising. With regard to puncturing the chest of the cow, he had been very much amused by Mr. Gray's statement of how he proposed to deal with a cow suffering from traumatic pericarditis with pus in the pericardium. He had no doubt the operation could be performed, but it would be better performed on the dead subject.

Mr. ALMOND said his experience of exploring the chest was not very extensive and he had met with varying success, but he was not altogether sure that it was really a matter of operating too late. He should not expect success from operating during the active stage of the disease. In cases where the active inflammatory condition had subsided, and fluid remained, successful puncturing might be employed. Cases of acute pleurisy followed by a fatal issue would probably have proved fatal whether operated upon or not. He thought the extensive effusions were far rarer than they were formerly, but whether that was due to lower intensity of the virus or to a different way of treating the case he did not know. He had only had one serious case of effusion into the horse's chest in the last few years, although he had had many cases of pleurisy which he had treated successfully. In pleurisy he always put the animal on to four ounces of Epsom salts every six hours; the medicine was generally given in the drinking water, and the effect was almost invariably to reduce the temperature within a few days, and the case went on its normal way towards recovery. A very important feature was to provide a long period of convalescence before putting the animal to work.

Mr. WILLETT asked whether Mr. Sutton had noticed any particular temperature indicative of effusion of the chest. He had found effusion in cases where a temperature of 103 had been stationary for about two or three days. Personally he could not say he had any success in tapping.

Mr. SUTTON, in reply, said that tapping was not always easy. Sometimes on first puncturing no fluid came out, but by persevering fluid was obtained. He thought that was due to the canula becoming plugged. It was quite possible to tap a case every other day for a fortnight and have recovery, but he thought in the majority of favourable cases only one tapping was done. Fluid seemed to accumulate more towards the diaphragm. With regard to Mr. Gray's case, he himself had a case now on hand which had been tapped every three weeks for four months. Probably Mr. Gray's case was not tuberculosis. He thought the chest of the horse did communicate.

Mr. GRAY said he had two cases for two years and they were undoubtedly tuberculosis.

Mr. SUTTON: With regard to pericarditis in the dog, he remembered a case of a dog in London which went on for the best part of a year after tapping, but whether the animal had tubercle or not he could not say. By using an antiseptic for the chest, in painting the side, one closed all doors to anyone saying we were negligent if anything fatal happened.

The anastomotic operation was reported as new in *The British Medical Journal*, but it had been performed in Holland and in Italy, and, like most surgical operations, probably was performed years ago. The simpler the anastomosis was made between the two systems the better. The omentum was said to be richly supplied with blood and if it was attached to the abdominal wall it would be doing all that was required, and one was not justified in scarifying the liver.

The operation for traumatic pericarditis in cattle he thought was feasible, and the viscera of the chest could be handled a great deal more than was commonly thought. He was sorry to hear Mr. Slocock did not tap. He could give authentic cases where horses of all descriptions had been serviceable long afterwards. In any case he did not think tapping would do any harm. He could not say much about tubercle as he was not a pathologist. Interstitial nephritis was a very common thing in old dogs; practically all of them had hard kidneys.

Potassium iodide was very useful as a thirst checker and so was Vichy water.

As to serous abscesses, if drained there was a recurrence unless the whole thing was slashed open. He did not agree that when fibrinous lymph was found it was an old standing case. Some men had the gift of diagnosing fluid in the chest early, and probably they were men with a good musical ear. He always looked upon fluid in the chest as most serious. He did not think for a moment that a good percentage of horses recovered, but there would be some if more were tapped. He had been interested in Mr. Hunting's remarks as to fatty liver, and he knew of a stud where all the old horses had fatty degeneration of the liver, horses which were fed on a good deal of corn. In opening capped hock and such-like conditions, supposing the leg did swell up, it would still be a good operation if in three months time the animal was well again. He was not educated enough to differentiate the kinds of effusion; the pathology of the chest was almost a closed book to the ordinary practitioner. He had known horses recover when the fluid that came out was hæmorrhagic, deep saffron, or light in colour, and he rather thought the lighter-coloured fluid was the better, but he would not like to say much about it. If he had a horse of his own with fluid in the chest he would tap him and inject Lugol's solution of iodine into the fluid, and wait a little before drawing it off. He thought that was beneficial. With all respect to Mr. Almond, he thought the operation should be performed in the early stages. With regard to effusions being rarer now, they were so in his own case, but then his horse practice was rarer. As to the four ounces of Epsom salts, that was used when he was a pupil as fever

powders, and very profitable they were. He looked upon a temperature of 103 as the most dangerous temperature in a horse, far more dangerous than 106.

Mr. HUNTING asked whether Mr. Sutton thought the pulse remaining at about 56 indicated anything.

Mr. SUTTON said yes. The pulse found to accompany most cases of pleurisy with effusion had nothing very startling to identify it.

On the motion of Mr. J. Willett, seconded by Mr. Hunting, a hearty vote of thanks was accorded to Mr. Sutton for his Paper.

HUGH A. MACCORMACK, Hon. Sec.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

The annual meeting was held in the Reading Room of the Royal (Dick) Veterinary College, Edinburgh, February 10th. In the absence of the President, Mr. James Peddie, F.R.C.V.S., through illness, Mr. Riddoch was called to the chair on the motion of Mr. Baird, seconded by Prof. Dewar. Present: Messrs. Wilson, Lanark; A. Matthew, Selkirk; Borthwick, Kirkliston; Aitken, Dalkeith; Prof. Dewar, Principal Bradley, Prof. Wilson, Prof. Gofton, J. B. Buxton, A. Baird, and Jas. Henderson, Edinburgh; J. C. McGregor, Greenock; W. Doughty, Ayton; J. Cameron, senr., Berwick-on-Tweed; R. Reid, Cupar; A. Mackenzie, Kirkcaldy.

Visitors: Messrs. Macfarlane, Glasgow; Macfarlane, junr., Doune; Anderson, Cupar; Trotter, Glasgow; W. M. Mitchell, Drs. McGowan and Mitchell, Edinburgh; Connochie, Galashiels.

The SECRETARY (Prof. Gofton) intimated apologies for absence from Messrs. Wallace, Richard Rutherford, Young, Mitchell, Reynard, Prof. John McCall, Principal McCall, and the President.

The minutes of the last meeting were read and confirmed.

Correspondence.—The Secretary read a letter from Mr. T. Faithfull Davies, on behalf of the Société de Pathologie Comparée, intimating that a Congress had been arranged to be held in Paris in October next.

Also a letter from the Royal Sanitary Institute asking the appointment of a delegate to a Congress to be held at York from July 29th to August 3.

A letter from the Association of Veterinary Officers of Health with regard to the question of tuberculosis. The Council, Prof. Gofton explained, had agreed to ask Mr. A. M. Trotter, to submit the letter and a resolution from the Association of Veterinary Officers in connection with his paper on the subject.

Mr. CAMERON read an extract from the report of a delegate to last year's Sanitary Congress, and said that illustrated the necessity, and very forcibly, the value of sending representatives of the veterinary profession to such meetings. One did not get everything they would like to get at these meetings, but it was necessary to have someone there to see they were not trampled on, and to lend their assistance. He proposed that a delegate be sent.

Dr. BRADLEY seconded, and suggested the Secretary as their delegate, which was agreed to.

TREASURER'S STATEMENT.

Prof. GOFTON submitted the Treasurer's statement of accounts. They commenced last year with a balance in hand of £11 5s. 2d. During the year they had received £10 17s. 6d., in subscriptions, and the expenditure had been £10 5s. 6d., leaving a balance in hand of £11 15s. 2d., The accounts were accepted.

THE NATIONAL VETERINARY ASSOCIATION.

Prof. GOFTON read the circular letter from himself with regard to the election of representatives to the

Council of the National Veterinary Association in accordance with rule 36. The number of representatives to which they were entitled was two, in addition to himself as Secretary. The Council recommended that the President should be one of the representatives, and, in view of the active part Dr. Bradley had taken in the movement, that that gentleman should be appointed the second representative on the Council of the National Veterinary Association. He moved the appointment of their President (Mr. Peddie) and Dr. Bradley.

Mr. MCGREGOR seconded, and the motion was adopted.

ELECTIONS AND NOMINATION.

Prof. AINSWORTH WILSON, F.R.C.V.S., Edinburgh; Messrs. J. BASIL BUXTON, M.R.C.V.S., D.V.H., Edinburgh; A. MATTHEW, M.R.C.V.S., Selkirk; A. MACKENZIE, M.R.C.V.S., Kirkcaldy; D. S. DAVIDSON, Edinburgh, having been duly nominated, were elected members of the Society, on the motion of the Secretary, seconded by Mr. Cameron.

Mr. MACFARLANE, junr., Doune, was nominated by Dr. Bradley, seconded by Mr. Baird.

Prof. GOFTON said that before reading the address prepared by their President, he wished to move that the members present send to Mr. Peddie an expression of their regret that he was not able to be with them, and expressing a hope that he might soon be restored to health and fit to resume duties again. (Carried).

PRESIDENTIAL ADDRESS.

JAS. PEDDIE, F.R.C.V.S., Dundee.

Gentlemen,—My first duty must be to thank you for the honour conferred by re-electing me as your President for another year. I am deeply conscious of the compliment, and although I was somewhat reluctant to retain the position, it was not, I assure you, from want of appreciation of your confidence in me, or the honour you desired to convey, but rather that I felt this honour should go round, and that I might be unable to devote as much time to the interests of the Society as seemed to me necessary for one occupying the Presidential chair. I trust, however, with your active assistance and co-operation, that this year's work will be more successful and interesting to the members generally, and I shall do everything in my power to make it so. We are truly fortunate in having in Prof. Gofton such an energetic and indefatigable secretary, and all that is required to make the year's progress a huge success, is that each individual member should take an active and earnest interest in the Society, doing everything in his power to attend the meetings, to interest his professional friends and induce those of them who are not members to join our Society. I specially plead with you to assist me in the attainment of this ideal.

I have, as many of you are aware, very frequently advocated the immense advantages to be obtained from attendance at the various meetings of our societies. The papers submitted on a wide variety of subjects and their discussion are of undoubted educational value and assistance to practitioners. Then we have interesting cases and specimens of the highest clinical value. There is also an advantage to be gained by seizing the opportunity presented by those meetings to discuss with our professional friends points of difficulty or interest constantly arising in the course of our practice. We are all more or less creatures of environment, our experience as individuals, even in busy practices, is more or less limited, and it is only by mixing freely with our *confrères* and comparing notes that any true and real progress can be made.

There is a further point of great importance—that such meetings tend greatly to improve our social relationships by breaking down petty jealousies and ill-feelings which are so apt to evolve between practitioners,

and thus make for happier and better understandings between individuals and greater solidarity as a professional body. I do not think there ever has been a time in the history of our profession when there was a greater need for our absolute unity.

There is an old Greek proverb—"Know thyself," which evidently summed up the ancients' ideas of the fundamental basis of true wisdom. Well, gentlemen, I cannot help thinking that if we try to know ourselves properly, we must often feel how sadly deficient in knowledge we are.

Science in all branches has made enormous advances in recent years, and the science of veterinary medicine and surgery is no exception; it is truly a very wide field. Personally, I confess that the more I come in contact with members of my profession, the more is my lack of knowledge on so many points brought home to me, and the inestimable advantage of our conferences demonstrated.

It is customary in the course of a Presidential address to discuss the politics and other matters of interest before the profession, but in doing this I shall, I think, best consult your interests by carrying it out in the briefest possible manner.

The most unsatisfactory position of the finances of the Royal College of Veterinary Surgeons is a matter which I feel sure we all very much regret. I also think there is now a very strong and widespread feeling that the Veterinary Act Amendment Bill should be entered on the Statute Book, and I trust in the interests of the profession that day is not far distant. The passing of this Bill into law would, I am satisfied, be in the highest interests of the profession, and I am firmly convinced we would not have long to wait for evidence of the many benefits and advantages which would follow.

Thanks to the untiring and most zealous efforts of Principal Bradley and Prof. Gorton, the amalgamation of our various societies is now practically *un fait accompli*. That such an amalgamation will benefit the profession I have no doubt, for we can under the new scheme present a more solid front to all questions adversely affecting the interests of our profession.

The tendency to day is towards co-operation. We see many examples of it around us, and it is a matter for regret that in the veterinary profession at the present day there should be so much cutting of fees and other practices of a most injurious character. Especially is this so regarding contracts, many of which are taken at prices which are absolutely ridiculous.

The unfortunate thing is that this is a matter which could be so easily rectified if members of the profession would stick out solidly for their just and lawful rights. Personally I hold it is much better for a man to do less work and be reasonably paid for it so that he can do it well, rather than kill himself doing work for which he is improperly paid and which when everything is considered he cannot possibly do well, no matter in what interest it may be viewed.

The College Crest case has been won and lost, but personally I do not think the profession is much, if any, poorer as the result of the decision.

The efforts which have been made during the past year to obviate the great conflict of veterinary evidence which so often occurs are of the most praiseworthy character. It is to be hoped that the discussions on this subject which have taken place will lead to the results so earnestly desired in the interest of the profession.

I will not weary you with further remarks, but will conclude by again asking your very active co-operation and assistance in carrying on the work of this Society and by expressing the hope that we shall have a very satisfactory and prosperous record to show for the work of the current year.

The CHAIRMAN said they were all in agreement with Mr. Peddie's address. They hoped he might soon be restored to health and be present at their meetings.

"BOVINE TUBERCULOSIS; ITS INTERCOMMUNICABILITY AND DANGER TO MAN."—By A. M. TROTTER, Glasgow.

[This appeared in our issue of Feb. 10, p. 504].

Mr. TROTTER said: The Secretary has asked me to submit a resolution which was passed at the Annual Meeting of the Association of the Veterinary Officers of Health on October 13th, 1911, which was attended by Veterinary Surgeons holding appointments under the Public Health Acts and by representatives of Local Authorities. The resolution was the outcome of two papers which were read, one by Prof. Delépine, of Manchester, dealing with tuberculosis and the milk supply; the other by Mr. John Lindsay, Town Clerk Depute and Solicitor, Glasgow, who took up the legislation dealing with the milk supply. Mr. Lindsay as the result of his experience found that the legislation was quite inadequate to protect man, and he outlined a scheme whereby his idea was that the supervision and control of the milk supply should be placed in the hands of a central authority, preferably the Board of Agriculture, and that they should issue a concise and comprehensive code of regulations dealing with licensing of dairies and dairymen. The resolution passed was as follows:—

"The delegates and members assembled at the Annual Meeting of the Association of Veterinary Officers of Health, held at Edinburgh on October 13th, 1911, recognising the danger to the public owing to the prevalence of tuberculosis amongst animals, and particularly by the consumption of the meat and milk of such animals, respectfully and urgently call upon the Government to take immediate steps to control the disease by:

(1) Scheduling tuberculosis as a contagious disease under the Diseases of Animals Act, with partial compensation for all tuberculous animals and carcasses notified and condemned, payable out of State funds for a limited period.

(2) Offering financial assistance to all owners and breeders of stock who are willing to take the necessary action to breed tubercle free herds.

(3) Compelling owners of property to provide sanitary buildings in which to house healthy animals, by means of State loans, if necessary—the occupants of such buildings to keep them in a cleanly condition.

(4) Taking such further action as may be considered necessary in the future to completely eradicate tuberculosis from the midst of farm animals.

(5) Placing under adequate control sea-borne supplies of meat and milk.

I think I need hardly say more in support of this resolution; it must appeal to everyone of us.

The CHAIRMAN: We are exceedingly obliged to Mr. Trotter for bringing before us such an interesting paper, which we now will have an opportunity of discussing.

DISCUSSION.

Prof. GORTON: I cannot say I feel altogether comfortable in opening the discussion, and it might be as well to explain how I came to be chosen for the purpose. Instead of acting on my own responsibility a little while ago, and finding someone to open the discussion, I was foolish enough to consult the President. The result is that I am here.

I cannot add much to what has been said. I feel considerable sympathy with Mr. Trotter in attacking this subject, because it has been dealt with so frequently and approached from so many sides that it is exceed-

ingly difficult to put the matter forward in a new light or find anything new to say. Looking over the paper I divided it roughly into three sections. The first section deals with the subject from a historical aspect, leading up to the appointment of the Royal Commission following Koch's statement in London in 1901. In the second place Mr. Trotter deals with the results accomplished by the Royal Commission. Thirdly, he criticises fairly but strongly the powers that exist for dealing with inspection of cows, and the efforts that have been made to prevent the infection of milk with tuberculosis. Beginning with Koch's statement in 1901, it is quite clear that statement created one impression, whether it was the intention or not of Koch—that neither bovine tuberculosis was communicable to man nor human tuberculosis to animals to a degree which was at all material so far as the health of either was concerned. I think there is an omission in Mr. Trotter's paper in this connection, and the fact concerned is one which has been so obvious to Mr. Trotter that he has not appreciated the necessity of mentioning it. He makes no reference to the relationship between bovine tuberculosis and human tuberculosis. He speaks of the human disease and the bovine disease, and of the differences which exist between them, and their respective causal organisms, but he does not indicate any relationship. He gives us clearly to understand that bovine tubercle bacilli are capable of causing disease in man, but he does not say what relationship exists between the two types of bacilli, whether they are essentially different or merely divergent types and closely related. Mr. Trotter will agree with the following quotation from the Royal Commission report: "We prefer to regard the two types as manifestations of the same disease." I do not think that view would at the present time be seriously disputed by anyone. Although we do recognise that there are certain differences by which it is possible to distinguish the bovine from the human type of bacilli with almost absolute certainty, I do not think anyone would dispute that a close relationship exists between them, and that they are probably descended from what one might say was a common ancestor.

Following on this section Mr. Trotter deals with the sources of bovine infection. He deals with two. Milk from a cow with a tubercular udder, and milk from a cow with tuberculosis independently of a tubercular udder. It is a question if tubercular milk is actually secreted by cows unless the disease is present in the udder. The Royal Commission, I know, were unable to find any lesion microscopically of the udder of certain tubercular cows giving tubercular milk. It does not necessarily follow from that that the udder was not tubercular. I cannot help thinking that except in cases of generalized tuberculosis you do not get tubercle bacilli in the milk unless the udder is affected. It might not be recognisable by ordinary examination, microscopic or otherwise, but I think it is there in probably its earlier stages. There is another source of infection of milk from cattle. I refer to uterine discharges and to faeces. Those who are associated with dairies and the inspection of milk know that it too frequently happens that parts of faeces and other similar materials find their way into the milk. It has been demonstrated repeatedly that the faeces from cattle affected with open tuberculosis are capable of infecting other animals. Such faeces finding their way into the milk constitutes danger which is not negligible, although some people rather minimise that source of infection as of no moment. One is obliged to regard all tubercular cows as at least potential sources of infection of milk. All cows with open tuberculosis are a material source of infections, and even though one could recognise and secure all cases of open tuberculosis there would be a fresh crop of tubercular udders every year so long as there were tubercular cows, and the position of each year would be practically a repetition of that of previous years.

In dealing with the best means of protecting the milk, Mr. Trotter says that one of the first procedures to adopt must necessarily be the seizure and destruction of all cows with open tuberculosis. With that I agree, but it falls far short of what is necessary to protect the public from infection of tuberculosis by means of milk. Even though one started a campaign for the eradication of all cows with open tuberculosis, a considerable number of cows with open tuberculosis would not be suspected. On a good many occasions it has been observed that cows apparently fit—fat, and sleek in their coats, and to all appearances in the best of health, have been eliminating and have continued to eliminate for considerable periods, sometimes for years, large quantities of tubercle bacilli in their faeces. In the majority, the lungs have been the seats of the disease. It would thus be difficult to make progress if action were limited exclusively to recognisable cases of open tuberculosis. Infection of milk might be reduced, but no real advance would be made unless uniform action were taken throughout the country. Any steps taken must have for their ultimate object the complete eradication of tuberculosis. The task is not by any means one that can be regarded lightly. It is of considerable dimensions, can only be accomplished gradually, and it will take many years before success is reached, but that it can be successfully brought to a conclusion, I am convinced, if proper steps are taken. In the meantime much valuable work might be done if public bodies encouraged and assisted voluntary efforts to establish tubercle free herds.

Mr. Trotter criticises the existing laws controlling the inspection of cows and milk fairly severely, and I think rightly, because one must realise the utter hopelessness of dealing even with tuberculosis of the udder by means of the existing legislation. We know the laws are very unequally enforced. I was speaking two days ago to a gentleman from the north of Scotland with regard to inspection in his particular part, and asked him what inspection existed. He said, "I have been appointed Inspector for the Burgh, but the only time I am asked to inspect is when the Sanitary Inspector seizes a piece of meat and comes to me for my opinion. That is the case not only in the burgh, but throughout the county." "What are the byres like?" I asked. He smiled and said, "Many of them are primitive." It is well known that that is the state of affairs.

Mr. Trotter attempts to estimate the number of cows which are affected with tuberculosis of the udder, and bases his calculations on the result of certain inspections during the six years from 1900 to 1905 inclusive. These figures are somewhat misleading, and indicate a somewhat better state of matters than really exists. Mr. Trotter gives the reason in his paper. When a cow is condemned in town for tuberculosis of the udder, with few exceptions, where they have additional powers, that cow is sent elsewhere. You consequently get a reduced number of cows affected with tuberculosis of the udder in the areas submitted to inspection, and a proportionately greater number in the areas not subject to inspection.

Many cases of tuberculosis of the udder occur in cows in byres subject to inspection, of which the inspector never hears a word. I know two recent instances in the city of Edinburgh where that occurred, in one case I was asked to examine the cow the remark being made that it was time for a visit from our friend Mr. Riddoch. I demonstrated tubercle bacilli in the milk. The other case was on an identical footing. Mr. Riddoch never saw the cows. One was sold in open market as a milk cow. Where inspection is carried out efficiently the dairymen—I do not say all, but some of them—have experience sufficient to enable them to suspect when a cow is in all probability subject to disease likely to result in its being seized, or the sale of the milk arrested. The result is that they do not give an opportunity for the cows to be

caught; they shift them. I am sure that as an indication of the extent throughout the country of tuberculosis of the udder, the figures are misleading.

With reference to Mr. Trotter's remark as to the appointment of a Commission by the Secretary for Scotland, when I first heard of the suggestion I was inclined to think it was very desirable. I am still inclined to think it would do good if the proposal was somewhat modified. I think a Commission which consisted of agriculturists, representatives of Local Authorities, Town and County Clerks, medical and veterinary officers and sanitary inspectors, would be a Commission with too many conflicting interests, and the best results would not be obtained. I suggest that a modification of that would be of material improvement, namely the appointment of an impartial Commission to confer with all the parties concerned, and to draft a Bill mapping out the best lines of procedure. I would go further and say that if it be possible they should take steps to ensure that the Bill should be carried forward, because too often the reports of Royal and other Commissions which make recommendations are simply pigeon-holed, and there is nothing done. Unless steps are taken to ensure legislation, we might as well save the time and trouble of suggesting a Commission or assisting in its deliberations.

Mr. CAMERON: In writing a paper on this subject there is now a large amount of reliable material to choose from besides one's own personal experience. But the difficulty always exists of choosing the most suitable and in putting all together in one consecutive, harmonious whole. It is also a benefit, if a subject is one of great public interest, that it should be treated on a plan and in language which the public can easily understand. These difficulties have been most successfully overcome by Mr. Trotter, and we are greatly indebted to him for so excellent a paper on this important and pressing subject.

It is many years now since I first took part in discussing a paper on this subject at the National, and since that time the subject has been repeated. The Scottish Metropolitan has done justice to it on various occasions (twice I have taken a leading part at our meetings on it). The other Provincial Veterinary Associations have also done their part. Yes, if the medical profession had given a fraction of the attention and efforts which the veterinary profession has done towards getting this dire scourge of man and beast put under control we would have had to-day many spared lives—healthy lives and millions of money which we do not now possess.

The powers that be, both National and Municipal, have not yet learned the alphabet of the subject—to attack and remove the cause, and the bad effects will cease. There would then be no need to spend so many millions on sanatoria to cure what should have been, and could be prevented.

The excellence of this paper leaves little or no room for criticism. I am pleased that he alluded to the great achievement which our illustrious member, Sir John M'Fadyean, accomplished in such a short and critical space of time. I thought it was 24 hours. I was present and heard both champions. Sir John's victory was magnificent, not only for himself but also for the veterinary profession. At the early meeting of the National to which I have already alluded I mentioned that there was one thing wanting, viz. a public exhibition and demonstration of the diseased subjects which so often supply our milk and sometimes meat. At the 3 days' Tuberculosis Conference which was held in London 4 years ago that defect was supplied on a liberal scale, and was explained to the public audience by the late Mr. King and other London Veterinary Inspectors. I also addressed the audience, pointing out how a number of our large towns and cities who could afford it had got improved laws on their milk and meat supply

put through Parliament. But all the other portions of the country have been left alone, continuing to produce the disease—and allowing the medical profession, as one of their leading members has admitted—to reap a profitable golden harvest. We should have had a public demonstration of diseased subjects and specimens. Until we get the public educated on the subject and have them backing up our demands for reform, I fear that our efforts may be shuffled and shelved. It is, however, clearly our duty to put Mr. Trotter's finishing suggestion into operation. Also that we send a copy of our request to the National and the other Provincial Associations, and that we request these Associations to take an early opportunity of reciprocating our procedure. Another thing we should do—we should subscribe specially and have an edition of some 1,000 copies of this paper printed and distributed to every reading room, library and otherwise throughout the Kingdom. It is specially suitable for educating the public and leading them to give us their active assistance. I am persuaded if the public read this paper and the papers by Prof. Delépine and Mr. Lindsay, and saw the shocking diseased conditions of some cows whose milk is consumed by the public, they would then understand why there is an increase of abdominal tuberculosis. They would also then be both able and willing to assist us in getting the necessary reforms.

They had, he added, expressed their pious opinions on this subject long enough. He thought it was high time that they were taking action on the lines suggested in the concluding part of Mr. Trotter's paper. He proposed that the President and office-bearers of the Association be instructed to prepare a memorial on the subject and forward it to the Secretary for Scotland. He thought it would not be the Commission but Government which would draft the Bill. The Commission would give Parliament the best advice.

Prof. DEWAR thanked Mr. Trotter for the trouble he had taken to bring such an excellent paper before them. They were all greatly indebted to him, and congratulated him on the amount of information he had put into such a limited space. He did not, however, altogether agree with some of his conclusions, but he presumed Mr. Trotter meant the last paragraph of his paper to be superseded by the resolution passed by the Veterinary Officers of Health.

Mr. TROTTER: I think they are both to go together.

Prof. DEWAR said they were not exactly the same, and it would be as well to know where they were in regard to them. This showed how differently things might strike the reader who knew a little of the subject. He was surprised that Mr. Trotter did not refer to the fact that the Board of Agriculture issued a tuberculosis Order a year and-a-half ago, and that the Order was distributed throughout the country. After a time the Order was withdrawn, chiefly due to the fact that compensation for the animals to be seized and destroyed under the Order had to be paid for out of local funds. Mr. Trotter, in his recommendations, avoided that stumbling block, and suggested that the money should be obtained from Imperial funds. At the time when the Order was issued the Treasury was not prepared to meet the Bill, and that was why the Order was withdrawn. Even with the two Orders put together he did not think they got to the root of the matter. They must, as Mr. Cameron said, begin at the beginning, and if they did not meet with tuberculosis at the breeding farms, they would not meet it at the dairy. They must attack it at its fountain head. Most of them knew that the Board of Agriculture had passed an Order in connection with the registration of entires. It was a permissive order by which owners could submit their animals to be examined by Government Officers, and if they received a certificate of fitness they were put on a register as passed by the Government Officers. A leaf

might be taken from that book in regard to tuberculosis, and the Government might do something in regard to bulls. Suppose the Government made it permissive at first to register all bulls that passed the tuberculin test; after a year or two they might make it illegal that bulls should be exposed for sale at public auctions unless they had been submitted to the tuberculin test and been declared free. This would take a little time, but it would be on the same principle as was done with stallions. In future years steps would be taken to prevent stallions going about that were not sound; and in the case of bulls it might be provided that if found infected with tuberculosis within three months they could be returned to the seller if the buyer wished. That would go far to eradicate tuberculosis at the fountain head. If the disease was eradicated at the breeding farm they would soon eradicate it in the town. In reference to the Secretary's remarks about their friend Mr. Riddoch, an anxious servant who was trying to do his duty, he thought it was Prof. Gofton's duty to give Mr. Riddoch a hint that the cow should be looked after.

He was at one with Mr. Trotter as to the scheduling of tuberculosis as a contagious disease. He did not agree with offering financial assistance to breeders of stock. The Government only offered financial assistance to breeders of stock when they compelled owners and breeders to assist themselves. How was financial assistance to be given in any other way? With regard to the suggestion as to compelling owners of property to provide sanitary buildings for the animals, that might be done in towns, but it would be rather difficult in country districts. In some cases cattle in England were hardly housed at all.

Dr. BRADLEY—There was not the slightest question that tuberculosis in the human subject would be very much less were it possible to stop infection by the alimentary canal. One could hardly doubt that if one had experience in the out-patient department of a large hospital or in connection with a children's hospital. The number of cases in connection with neck-glands, tubercular glands in the neck in children, was astonishing. They were given to understand that that was largely due to bovine origin through drinking milk. Mr. Trotter had possibly been, if anything, too lenient when he said 31 per 1000 children were infected with tubercle derived from bovine source. He thought the percentage was probably considerably higher.

PROFESSOR WILSON said he had read the paper with the greatest interest, and congratulated Mr. Trotter on placing the facts before them so concisely. He confessed, however, to a feeling of disappointment not with the subject-matter, but with the particular portion of the subject he had chosen. He hoped that Mr. Trotter would have given them some of his own practical experience of the disease, and not simply a *résumé* of the research of the past ten years. The first portion of the paper was entirely historical. Unfortunately—or fortunately, the paper did not admit of criticism. He could not find anything with which he was in disagreement, except in regard to a matter of minor importance.

Referring to a cow with tuberculosis in the udder he says "Such an animal is of no value for milking purposes." In a sense Mr. Trotter was right; in another sense he was wrong. Many an animal with tuberculosis in the udder had a distinct value to the owner. He knew a large number of such cows which had given 8, 12, or 16 quarts of milk daily for six weeks or two months after he had detected bacilli in the milk, and after the appearance of distinct physical symptoms in the udder. These were cases which, if general regulations were enforced, would not be permitted; the point was, that a number of cows with distinct lesions might give a quantity of milk for some time, and the milk was often used because its appearance did not alter.

Another point which had not been mentioned was the prevalence of latent tuberculosis in the udder. Some cows developed a small indurated nodule, it might be microscopic, or in the mucous membrane of the ducts. The cases he wished particularly to refer to were those quarters of the udder which were chronically enlarged, firmer than normal, and which nevertheless gave the most milk. He did not mean those cases of compensatory hypertrophy due to a slight quarter. In his experience, it had been there two years, during which time he had suspected the cow, taken frequent samples of the milk, and had been unable to detect the bacilli, but eventually it was slaughtered for tuberculosis of the udder. These cows had been inspected every month, and records had been kept. These were cases where no distinct tuberculous character existed, but which eventually developed into acute tuberculosis mastitis. If milk from these cows had been taken at certain times during the two years, inoculation would no doubt have produced positive results. An indurated tuberculous nodule might also exist in a latent or quiescent form for a considerable time, especially near the base of the teat, here again, both tests might fail, until the lesions became active.

Mr. Trotter had taken a broad and comprehensive view of the disease in man and animals, and carefully reviewed the figures as to infection of man from the bovine source. The figures as to children were particularly striking. With regard to his suggestion that the majority of the proposed Commission should consist of those interested in agriculture—this raised the question as to the appointment of whole-time veterinary inspectors. No man could serve two masters. He had experience under the Public Health Acts and the Board of Agriculture, and knew that in country districts where the whole of the members of the local authority, or the majority of them, were dairy farmers, the local veterinary surgeon who was appointed to inspect the cows had rather a difficult task. A very good bill had been drafted by the Right Hon. John Burns, President of the Local Government Board some years ago, for the control of the sale of milk, and it seemed to him to be the thin end of the wedge. When they touched so many interests as they would in dealing with this disease they must proceed by degrees. They ought to commence work on the lines of the Milk Bill and the Order of the Board of Agriculture which was printed at the same time. Unfortunately they have not become law.

The CHAIRMAN said this subject was of enormous importance wherever cows were kept for milk production. The fact that the disease was communicable from cows to man ought to stimulate Local Authorities to take steps to prevent milk affected by tuberculosis from being sold to the public. He had pointed out a cow with tuberculosis in the udder, and the dairyman said it was the best milker in the herd. There would therefore be a hardship sometimes. The great drawback to action was the provision of compensation in cases of slaughter. The cost of compensation prevented Lord Pentland's Bill from becoming law, and resulted in the withdrawal of the Board of Agriculture's Order. They could not very well slay these animals without giving compensation. Glasgow was the first city to procure a Bill to enable Local Authorities to remove diseased cows from premises. Edinburgh followed that example, but they did not go far enough. They had no control as to destination. The result was that most of the cows removed from Edinburgh byres went to the north of England; some were sent a few miles from Edinburgh, and their milk was sent back to Edinburgh. He thought a clause ought to be added to the Glasgow Act to enable inspectors to brand infected cows sent from town dairies. If that were done no dairy

men would allow them into their premises. If Glasgow adopted such a step Edinburgh would soon follow their example.

Mr. TROTTER, in reply, said he was sorry they had not given him a great deal more criticism. Prof. Wilson had taken exception to his statement that animals affected with tuberculosis were of no value for milking purposes. He still adhered to that statement. Such an animal was of no value. He did not care whether it gave five gills or five gallons. It was perfectly unfit to yield milk, and ought to go. He agreed with Prof. Wilson and Mr. Riddoch that certain cows would have tuberculosis of the udder remaining localised for a long time. These cows should also go. As for Glasgow always being in the front, he agreed, but he was not in favour of branding the cows. He would brand them with a poleaxe. That was the only effectual way of dealing with a tubercular cow. An honest class of dairymen would not take a tubercular cow, but another class would take any kind of cow that yielded milk.

Mr. Cameron raised a very good point. With the National Insurance Bill they are going to provide money for sanatoria. Well, they ought to provide a little money for the veterinary profession to prevent the disease. "Prevention is better than cure" was as true to-day as it was twenty or thirty years ago. They ought to have a veterinary force weeding out the old cows and preventing the propagation of the disease and sanatoria being filled with patients. It would be far cheaper in the end. In regard to Lord Pentland's Bill and Mr. John Burn's Bill, he could not agree with those who supported these Bills, because they placed the veterinary surgeons under the Medical Officer of Health. As educated men they ought to take a strong position, and say that they were scientific men, and held as good a qualification as a Medical Officer of Health, and they could not guide them in their work or advise them, and therefore they were going to take their own place in the fight. He knew the Medical Officer of Health. He was a very good chap if everything was going well. He took all the credit and said "Look at my work; I control the veterinary surgeons' work; here is his report." And when the Medical Officer of Health asked an advance of salary he put forward the work of the veterinary surgeon as a plea why he should get an increase, and the veterinary surgeon was placed in the back ground. But if anything went wrong he would say "Here is the culprit; this is the veterinary surgeon who did it." Now if they were to take the blame when anything went wrong they ought to get the credit when everything went right. Referring to the specimens of tuberculosis exhibited, he would pass round a case of tuberculosis of the eye. Recently they had six cases. That was a case of infection from a neighbouring cow which was suffering from tuberculosis in the lung, and through coughing had communicated the disease to the eye of its neighbour.

The SECRETARY said that arising out of this paper he would submit a motion on the lines suggested by Mr. Trotter in the last paragraph of his paper, Mr. Cameron's motion had not been seconded—

"That the Secretary for Scotland be asked to receive a deputation with the object of urging the desirability of appointing an impartial Commission to confer with agriculturists, medical veterinary officers, sanitary inspectors and other interested bodies, and to draft a Bill for submission to Parliament having for its object the protection of the public health and the eradication of all animal diseases communicable to man through the milk supply." The difference between the motions and the suggestion contained in the paper was that whereas in the paper it was suggested the Commission should consist of agriculturists, etc., he suggested that the Secretary for Scotland should be asked to appoint an impartial Commission to confer with the

bodies instead of the Commission being composed of those particular bodies. Mr. Cameron's motion said a document was to be prepared and submitted to the Secretary for Scotland.

Mr. CAMERON said he would withdraw his motion and second the Secretary's.

PROFESSOR DEWAR proposed an amendment. He said he was thoroughly in favour of the object of the motion, but it was too unwieldy. They should not go to Lord Pentland, and tell him what he ought to do. He suggested they should send a memorial to Lord Pentland to impress on him the necessity of the Government doing something in the way the motion pointed to, through the Local Government Board or the Board of Agriculture, with the view of combatting tuberculosis and preventing the sale of milk to the public.

Mr. ANDERSON said he understood this motion dealt not only with tuberculosis but other diseases. The subject was big enough and important in itself for special legislation. Mr. Trotter had spoken of the readiness with which a Medical Officer of Health was superseding the veterinary surgeon in everything. They were giving the Medical Officer of Health a wide door to walk in. Apart from that the subject was serious and important. Delay would be an error, and to ask for the appointment of a Commission or of a deputation prior to drafting a Bill would tend towards delay. The question came to be one of practical politics. It seemed to him advisable to accept Bills that had been proposed and were at present in the offing, such as the Rt. Hon. John Burns' Milk Bill and endeavour to alter this so that the things they desired as a profession might be secured. The Milk Bill was likely to be re-introduced, and it was unlikely that any Government would listen to a proposal that it should be cast aside for anything fresh, even if it came from a deputation or Committee composed so generally as was proposed. They ought to regard that Bill as likely to become law, and should endeavour to get it altered so that their present position might be preserved. There would be more success in that direction.

In reply to a request to submit his amendment in writing, Prof. DEWAR said his amendment would be that the Office Bearers of this Association be asked to draw up a Memorandum and submit it to Lord Pentland pressing on him the necessity for legislation in connection with a restriction of tuberculosis especially as affecting dairy cows.

Prof. WILSON seconded.

Mr. CAMERON suggested that they should not limit inspection to any variety of animal.

Prof. DEWAR said that Mr. Cameron might rest assured that no legislation would be passed in this direction that was not on a broad basis.

Prof. GORTON said he sympathised with Prof. Dewar's attitude that it might be desirable to word the motion in such a way that they left it open as to who should be consulted, but that they should impress on the Secretary for Scotland the desirability of taking active steps with the object in view. If they asked for a deputation to be received they would go a step further than was suggested by Prof. Dewar. To write and ask for a deputation to be received would have the same effect as Prof. Dewar's motion. If a deputation were received they would get a second chance of promoting their object. With the consent of the Chairman and of the meeting he suggested an alteration of the motion to the effect that the Secretary for Scotland be asked to receive a deputation to urge on him the desirability of introducing legislation and taking adequate steps for the protection of the public health and the eradication of animal diseases communicable to man through the milk supply. If that motion would be carried unanimously he would withdraw the original one in its favour.

Prof. DEWAR said he knew that busy Parliamentary men did not like to be troubled too much, and he did

not think a deputation would do more good than a memorandum sent from this Association. If the meeting, however, was of opinion that a deputation should be sent he would withdraw his amendment, but he still adhered to his idea as to who should be consulted, and as to taking in all disease. If they took in one disease it would take in all the others.

Dr. BRADLEY said that a memorandum would be pigeon-holed; a deputation was better.

Prof. DEWAR said that if the meeting wished it he agreed to a deputation being sent to the office in Edinburgh.

A motion was finally adjusted and carried unanimously to the effect "That the Secretary for Scotland be asked to receive a deputation from the Society, and that the deputation should impress on the Secretary for Scotland the urgent necessity for the Government dealing with tuberculosis, more particularly as affecting dairy stock, at the earliest possible moment."

A vote of thanks was given to the Chairman for presiding, and the proceedings terminated.

Prof. GORTON, Hon. Sec.

DISEASES OF THE DOG AND THEIR TREATMENT.—By Dr. GEORG MÜLLER, Professor Director of the Clinic for Small Animals at the Veterinary High School at Dresden, and ALEXANDER GLASS, A.M., V.S. (McGill), Lecturer on Canine Pathology in the Veterinary Department, University of Pennsylvania. Third illustrated edition, revised and enlarged. Royal 8vo., pp. xviii + 506; 178 illustrations and 14 full paged plates, some of which are coloured. (Published by Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden, London. Price 25s. net.)

Two editions in the original German language and three editions in English of this work have appeared within a few years. This is in itself an indication that the book is appreciated and demanded by those who take an active interest in the diseases of the dog. Canine pathology during the last decade or two has become of great importance to practising veterinary surgeons, not only in Great Britain, but also in the majority of Continental States and in the United States of America.

This book is a great improvement, both in text and in illustration on the former editions and supplies a great want to those who require a reliable guide or work of reference to canine pathology, surgery and therapeutics. It is printed in good type and on good paper. The illustrations, although not very artistic in many instances, are well selected and will no doubt assist the student and junior practitioner, and even the more experienced practitioner in recognising certain rarer morbid conditions, hitherto not always understood by the observer. As much cannot be said of the illustrations in some dog-books and which serve no useful purpose to the reader. A great feature in this edition over the former ones is the space given to nervous disorders, especially of some of the disorders of the motor nerves, which have generally been much neglected in this country, and also to the skin diseases, a good knowledge of which is of very great importance to every practitioner and from which he derives a fair amount of his income.

There is, however, fault to be found with the too frequent mis-spelling of the names of authorities and of ordinary words, but although this is of minor importance it goes to show that a certain amount of carelessness has been displayed on the part of the proof readers. Another, and still more serious fault is that many of the figures, borrowed or copied from other works, have not been acknowledged. There is, furthermore, now and again some incomprehensible sentences which are likely to puzzle the reader. For instance, we

quote from p. 304 the following: "The kidneys are frequently the seat of more or less tubercular deposits, and in twelve cases scattered granulations were found in the *spinal* (?) and membranous substance, but cheesy abscesses and centres were also found."

Notwithstanding these faults the work is the best of its kind and we strongly recommend all those in canine practice or those who are not to purchase it not with the idea of ornamenting their bookshelves, but of digesting and of assimilating its contents thoroughly. The publishers, who are well known to be good caterers for the literary wants of the profession, deserve praise for their share of the work and for presenting it to British readers.

HENRY GRAY, M.R.C.V.S.

PARLIAMENTARY.

NEW BILLS.

In the House of Commons, on Thursday, March 14

* * * *

Sir F. BANBURY (City of London, Opp.)—Bill to prohibit experiments upon dogs.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, March 15.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. R. F. St. C. Houston retires, receiving a gratuity. Dated March 16.

SPECIAL RESERVE OF OFFICERS. ARMY VETERINARY CORPS.

Lieut. (on probation) S. K. Jones is confirmed in his rank.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. F. W. Pawlett to be Capt. Dated December 7, 1911.

Capt. A. L. Horner arrived from India in Transport "Dongola" on March 14th, on completion of a tour of foreign service, and has been posted to Hounslow for duty.

OBITUARY.

WILLIAM APPLETON, M.R.C.V.S., Shanklin, Isle of Wight. Graduated, Edin: May, 1859.

Mr. Appleton died at his residence on March 11, from bronchitis. Aged 79 years.

JAMES BRODIE GRESSWELL, F.R.C.V.S., Louth, Lincs. Lond: March, 1882: July, 1888.

Mr. Gresswell's death took place at Karnak House, Worthing, on Sunday, March 17, from diabetes mellitus, at the age of 51.

Mr. Gresswell was the son of the late Alderman D. Gresswell, F.R.C.V.S., of Louth, and was late Examiner for the FitzWygram Prizes at the Royal College of Veterinary Surgeons and Lecturer in Veterinary Science under the Lindsey County Council. He was the author of various works on veterinary science, including the "Manual of Equine Medicine," "Diseases and Disorders of the Horse," and "Equine and Bovine Prescribers," and also collaborated in a work on Comparative Medicine with his brothers, Dr. Albert Gresswell and Dr. George Gresswell, of Louth. He was Examiner for the Royal Cart Horse Show in 1890, and Veterinary Inspector under the Contagious Diseases (Animals) Act. Formerly he was a Captain of the 1st Lincolnshire Royal Volunteer Artillery. He was a Freemason, and a member of the Mark Degree.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended Mar. 16	18		18				2	3	81	143	5	69	621
Corresponding week in	1811		24			6	1	5			7	52	687
	1910	28		32			7	21			12	25	172
	1909	35		83			9	49			8	24	213
Total for 11 weeks, 1912	280		317				36	82	1396	3277	133	657	8156
Corresponding period in	1911		264		1	18	46	176			270	401	4588
	1910	340		411			75	219			264	257	1833
	1909	312		453			114	357			341	310	2523

* Counties affected, animals attacked : London 2, Middlesex 1.

Board of Agriculture and Fisheries, Mar. 19, 1912.

AN APPEAL FOR OUR DUMB FRIENDS.

Sir,

It has given me great pleasure to read in your columns of the passing of the new Act for the prevention of cruelty to our animals, and also from time to time the evidence of the keen interest which so many of the profession are taking in this direction.

While I am willing to admit the cruelty of working an animal suffering from some foot trouble or wound of the skin, it is my honest opinion that the practice which I now condemn is much more unjust to our horses—and that is the working of an animal on an insufficient diet for such work as he is called upon to perform. My remarks apply essentially to horseowners of the poorer classes, for with a few exceptions we cannot help admiring the condition in which the horses of the wealthy and of most commercial stables are kept.

My reason for bringing this question to the notice of your readers is that I could find no provision for this in the new Act, and the only mention of feeding was in Clause 7, which provides for the proper feeding of the animal while in pound. It is my belief that in the majority of alleged cases of cruelty the carman concerned was guilty of thoughtlessness and possibly ignorance, rather than intentional cruelty, but in his case I find it hard to ascribe his manner of feeding his horse to anything but sheer ignorance. Can we wonder at the fact if such a man should not have the slightest idea of animal management? We all know that the huntsman who runs his horse to death is almost on all sides proudly spoken of as a true sportsman and hard rider, but writing in the interests of animals one can only deprecate such action! Such wanton cruelty is not the poor man's offence, and not realising the folly of it, he tries to get too much work from an animal in proportion to the amount of food he gives him. His great object is to be as economical as possible, and being ignorant of the principles of economic feeding he fails to foresee that his economy will come more expensive to him in the end. Every one of your readers must have noticed, at some time or the other, a poor, ill-conditioned horse struggling with a load which, although it would by no means be a heavy load for him when in good condition, is far more than he can manage in his present state. Quite recently I noticed a horse in the poorest of condition trotting with a heavy load down hill. He showed nothing of that bright, fresh look which we associate with health, but seemed quite listless and apparently capable of very little more energy than it required to put one foot in front of the other. I reflected with a pang what that animal would suffer when he came to a slight hill if he should do so before the cart was unloaded.

Knowing how willingly the majority of horses are to

bring forth their best powers of endurance, should not we, who have so much interest in them, use all the means in our power to see that they at least get fair play? For some time I have given this matter a great deal of attention and thought, and at present I must admit that it is difficult to arrive at a satisfactory method of remedying this evil.

For lack of a better plan I would suggest that a society be formed of veterinary surgeons interested in the matter for inquiring into such cases, or perhaps we could persuade the R.S.P.C.A. to undertake this. I suggested veterinary surgeons, for I am sure that they would be quite willing to give any advice that might alleviate an animal's suffering without wishing to take a fee from a man who was obviously unable to pay one.

In the first instance, if an animal was seen in a very bad condition, and the most inexperienced layman knows the appearance presented by an underfed animal, it would be taken for granted that such an animal was either overworked in proportion to his diet or that he was affected with some wasting disease, *e.g.*, Tuberculosis; or perhaps bad teeth. His bad condition might be due to extreme old age. There are, of course, some animals which never fatten, but these would be easily distinguished by their general appearance. I would strongly suggest that at this juncture no arrests should be made, for if owners came to regard their case as being criminal they could, by giving false information, place great obstacles in the way of anyone making inquiries. The owner's name and address should be taken, and an expert should be sent (at the expense of R.S.P.C.A.?) to inquire into the case. He would then first examine the horse as to his general health, and if this were found good, he should then proceed to make inquiries as to the animal's food and feeding.

In my opinion, the expert would be the right man in the right place, not only because he would be able to detect disease if there was any, but owing to his college training, he would be in a position to advise the most economic fodder and the best manner of feeding for the class of horse. I think that in the majority of cases the owners would soon perceive that the expert was doing his best to help him and would accordingly be willing to do all in his power to make the inquirer's task an easy one.

If, after these proceedings, the owner did not dispose of his animal, and either from indifference or lack of means made no attempt to improve the animal's condition, he should be liable to have such an animal taken from him, and, if possible, sold. After all expenses had been deducted the balance of the money received from such a sale should be handed over to him. It may be that the foregoing suggestions would not be found practicable, and so I should be glad to have the opinions of others of your readers who may be interested in this subject.—I am, Sir, yours truly,

R. G.

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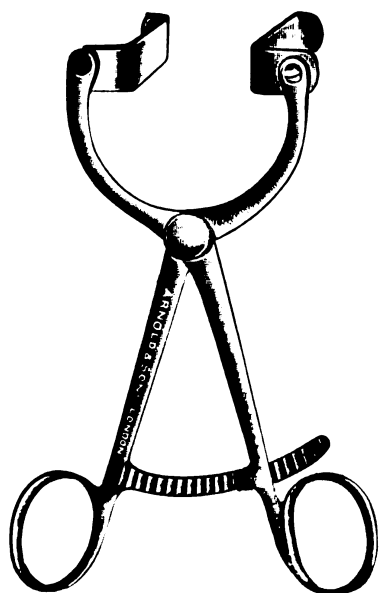
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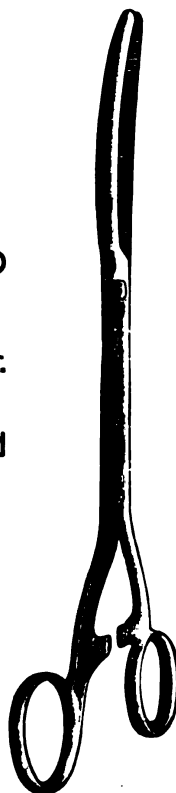


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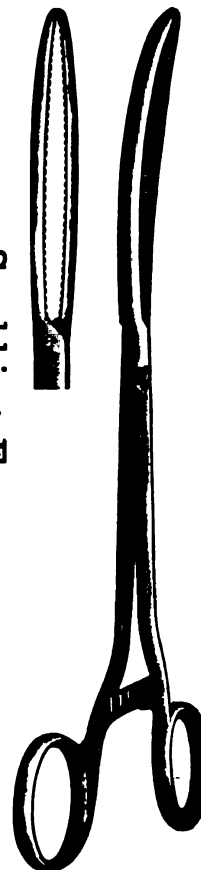


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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1238.

MARCH 30, 1912.

VOL. XXIV.

THE ROYAL COMMISSION ON VIVISECTION.

After sitting for 5½ years and holding more than 70 meetings, this Commission has at last issued its Report, which may quite fairly be called, as it has already been called "on the whole a complete vindication of vivisection." It is important to note that the main Report is signed by all the eight surviving members of the Commission, though three have only signed it subject to special reservations set forth in appended Memoranda. All three of these members—Col. Lockwood, Sir William Collins, and Dr. George Wilson—sign the first Memorandum of 8 pages long; the second and much longer one is signed by Dr. Wilson alone.

Almost all that need be said of Dr. Wilson's independent report is that he is much less inclined to attach value to the results of animal experimentation than his fellow-Commissioners. This is not surprising, as he also disbelieves in the utility of the diphtheria anti-toxin, and considers the germ or microbial theory of acute infectious disease, as well as the serum and vaccine treatment based upon it, illogical. But even Dr. Wilson's pathological views have not prevented him from signing the main Report with his colleagues.

That main report covers so much ground that we can only very briefly summarise its chief findings. First the history of the present Act and its working, and the accusations of anti-vivisectionists against the latter, are considered. Certain specific charges are weighed and found wanting, the charitably expressed conclusion being "that the witnesses have either misapprehended or inaccurately described the facts of the experiments." The Commissioners find that "with rare exceptions" the experimenters have conscientiously endeavoured to abide by the law; and then, after a stricture upon the misleading character of many anti-vivisectional descriptions and illustrations, it is plainly said "To represent that animals subjected to experiments in this country are wantonly tortured would, in our opinion, be absolutely false." Considering how constantly that very representation is made, this unanimous sentence is significant in the extreme.

Turning to the utility of vivisection, the Commissioners conclude that it has yielded valuable knowledge which probably could have been acquired in no other way, and may be expected to continue to do so. This conclusion of facts leads them to the opinion that "experiments upon animals, adequately safe-guarded by law, faithfully administered, are morally justifiable and should not be prohibited by legislation." Finally, they consider the means of minimising the animal suffering attendant upon experimentation; and, while opining that the present Act has been "so worked as to secure a large degree of protection to animals subject to experiment, and at the same time so as not to hamper or impede research," they submit a series of recommenda-

tions as further safeguards. These comprise an increase in the inspectorate (up to four whole-time inspectors for Great Britain), further and stricter provisions regarding the now little used curare, the definition and practice of pithing, and the destruction of suffering animals, with some changes in the constitution of the Advisory Body to the Secretary of State, and provision for special records by experimenters in certain cases. Not one is revolutionary.

The short Lockwood-Collins-Wilson Reservation Memorandum only differs from the main Report in a few particulars. The memorandists recommend that the responsibility of the Secretary of State be increased (making it an undivided responsibility) and that the "pain condition"—the obligation to destroy suffering animals—be made still more stringent. These—their chief points, they think require a new Act of Parliament, but they add two or three minor ones, one of which we emphatically endorse. The main Report holds it essential that Inspectors under the Act should be qualified medical men. The memorandum would extend eligibility to men qualified in veterinary medicine and science. Certainly veterinarians should make as efficient inspectors as medical men, and, in the case of some experimental animals, much more so.

Upon the whole the Report proposes to alter very little. Study of the history of more than thirty years experimentation has naturally suggested some improvements to the Commissioners. These, if acted upon, will probably save some animal suffering, without at all impeding research. But the most striking feature in the Report is its crushing disproof of the allegations of popular anti-vivisectionism—a disproof all the more complete from the known anti-vivisection leanings of some of the Commissioners.

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the case of solids other than fat, 10·6 per cent. to 4·9 per cent.

These examples must be taken as very abnormal milks; but such possibilities, nevertheless, render it very difficult to determine whether any particular sample has or has not been adulterated.

Legal standard. Under the Sale of Food and Drugs Acts the Board of Agriculture and Fisheries was given power to fix limits for the composition of milk, and in 1901 the Board issued regulations by which a sample of milk which contains less than 3 per cent. of fat or less than 8·5 per cent. of non-fatty solids shall be presumed for the purposes of the Acts, until the contrary is proved, to be not genuine, by reason of the abstraction of milk fat or non-fatty solids (as the case may be), or the addition of water.

The physical composition of milk is of considerable interest, particularly in regard to the fat. It exists in the form of spherical particles. It has been suggested that each particle is surrounded by a slight membrane, and another suggestion is that no real membrane exists, but that a gelatinous skin surrounds the particles. The fat is obtained from milk either by allowing it to stand, when a mixture much richer in fat is obtained, or by the employment of a separator.

The separator is a modern invention, which by rapid revolution forces the heavier portions of the milk towards the wall of the receptacle, leaving the lighter portion—the cream—in the centre. The separated fluids are run off while the machine is in motion—the rate being about 6000 revolutions per minute. The separator, however, does more than merely separate the cream from the milk, for it does much towards ridding the milk of solid impurities. What is called separator slime is formed on the walls of the revolving cylinder, and this consists of hair, dust, cobwebs, pieces of straw, particles of cow dung, micro-organisms—in fact scraps of every sort possible in a cowshed. To strip off the tough, elastic layer from the metal, it is necessary to use a strong scraper.

It forms part of the duties of the Sheffield veterinary officials to regularly inspect the separators that are being used in the city.

After separation the milk and cream can be, and are often re-mixed. The removal of the impurities increases the keeping qualities of the milk, and the reasons for this may be that during the process the non-germinal dirt removes mechanically a large percentage of bacteria, or that the dirt removed reduces the nutrient quality of the medium.

Whichever may be the cause of the better "keeping," one fact stands out prominently, viz., the ordinary cowshed or dairy sieve does not remove any but the major varieties of dust particles.

The composition of separated milk is as follows:

Water	per cent.	90·0
Fat		·2
Casein		3·5
Albumen		·5
Milk sugar		5·0
Mineral matter		·8

In some districts farmers and dairymen consider separated milk an excellent food for animals.

The only actual dairy product made from separated milk is a poor type of cheese, made on very much the same lines as the Dutch Gouda or Edam; but even then it is more general to return a small proportion of the fat to the milk before renneting.

Starters are usually made by stirring the culture powder into pasteurised separated milk.

Biscuit makers and bakers use separated milk and the price they usually pay is 3d per gallon.

Casein is the important nitrogenous matter in milk, and is prepared in the following manner. The milk is warmed, and the curd is precipitated by the addition of dilute sulphuric acid or acetic acid, after which it is treated by one of two processes. The acid is syphoned off, the curd thoroughly washed, and the liquid decanted. The curd or casein is then heavily pressed, and afterwards removed to a drum with several revolving beaters inside, which speedily reduce the damp mass of curd to small fragments. These are again removed, and are desiccated at about 150 deg. for 24 hours. The result is a light yellow powder, very similar to maize flour.

By the alternative method, after the curd has been precipitated, it is washed and redissolved in a small quantity of an alkaline solution. It can then either be dried at once or again precipitated by acid, and once more dissolved in an alkali, afterwards being evaporated as before. The powdered casein can be used, like milk powder, for the manufacture of cakes or bread.

It is also the chief component of such quasi-medical products as Plasmon, Nutrose, Sanatogen, Tilia, Enlactol and Bucasin, which proves to a certain extent that it is a nutritious food.

Prepared with formaldehyde, after being precipitated by metallic salts, instead of acids, a very durable substance known as Galalith or Lactoform, is produced, which is used as a substitute for bone, ivory, shell, horn and even celluloid, while it lacks the inflammable characteristics of the latter.

Lacterin is another casein product, but is generally prepared from buttermilk. It is used dissolved in ammonia, for fixing the colours in calico-printing. The American "cheese-paint" is also prepared from casein mixed with lime, and is said to make a very powerful whitewash. Casein powder is sometimes used in the manufacture of paper.

Casein can be rendered soluble by means of a little sodium carbonate, and as its food value is weight for weight four or five times that of the best beef, it is extremely valuable as an addition to many dishes.

When casein can be made more cheaply it will, from considerations of transport, probably form an important part of campaigning rations, for it is the most concentrated nitrogenous food with which we are acquainted.

Cheese is closely allied to casein. In fact, a cheese from skim milk is only an impure form of casein, ordinary cheese being a mixture of casein

and cream, the sugar having been eliminated from the milk.

What is known as "cream cheese" is merely cheese made from milk which has had extra cream added to it, and so contains a larger proportion of fat.

Butter.—Amongst other products derived from milk, butter is perhaps the most prominent and the best known.

What is known as butter-milk is simply the liquid which is left when the fat of the cream has been churned into butter. The globules of the fat have coalesced and left the liquid behind which contains some casein and sugar.

Condensed milk was first prepared by the American, Gail Borden, in 1856. It is obtained by boiling down milk so as to remove a large proportion of the water it contains. The operation is carried out at a temperature of 40° to 50° C., and the evaporation goes on till the volume is reduced to a third or a fourth of the original. Great care is exercised in the evaporation, for otherwise the milk sugar crystallizes out, and this causes the condensed milk to feel "sandy" on the tongue. On the market there are sweetened and unsweetened condensed milks, ordinary cane sugar or glucose being used if the former state is desired.

The manufacture of condensed separated milk has been going on for some time, and this material is sold in large quantities in this country. There being little cream in this condensed separated milk the product is of corresponding lower value.

In the course of his duties as a food inspector the present writer sees a very large number of tins of condensed milk which are unfit for human food, and considers that it would be in the interest of the public health if the makers of condensed milk were compelled to label their products "Unfit for the food of infants." It would also be advisable to place the date of manufacture on the label.

Dried milk or milk powder is prepared by evaporating milk to dryness. It contains all the constituents of milk except the water. A good dried milk when stirred with water ought to give a fluid which, in taste and appearance as well as in its chemical and physical properties exactly resembles milk. Up to the present, separated milk has been used in far larger quantities for this preparation than whole milk, for the material made from the latter has not found such a ready sale. In order to give a greater stability to the emulsion which is formed on dissolving milk powder prepared from whole milk in water, either 1 to 3 per cent. Sodium Bicarbonate, or 2 per cent. sugar is added.

Other milk products.—In addition to the products described above there are others which are used for special dietetic purposes.

One of these, Koumiss, was originally made from mares' milk by the Tartars. It is produced by a set of fermentations, including the alcoholic fermentation of the milk sugar, together with the ordinary souring of milk. There are various kinds of Koumiss and the substance is claimed to be a food and stimulant at the same time. It is given in cases where practically no other food can be absorbed.

Kephir is a similar preparation to Koumiss, but the fermentations necessary in its manufacture are set up in milk by grains of kephir. Freudenreich, of Bern, has isolated four micro-organisms in grains of kephir and states that none of these microbes is alone able to bring about the kephir fermentation. There is clearly a true symbiosis amongst the four different organisms.

In Armenia a thick substance called "Mazoun" is made which appears to be sour milk mixed with cream.

"Leben" is the name applied to a sour milk beverage prepared in Egypt.

A milk preparation called "Yoghurt" has come into prominence recently because of the *Bacillus Bulgaricus* which it contains. This organism is a very powerful exciter of lactic acid fermentation and, according to Metschnikoff, it acts as a sort of disinfectant in the large intestine, and thereby checks the chronic toxic poisoning caused by the putrefactive organisms. Metschnikoff, who is of the opinion that the putrefactive fermentation which usually takes place in the large intestine tends to shorten life, and that if these putrefactive changes could be checked human life would be prolonged, recommends the use of milk containing the *Bacillus Bulgaricus*. The unusually long life enjoyed by many of the Bulgarian country population would thus be explained, for they are known to consume large quantities of Yoghurt daily. Cultures of the micro-organisms present in Yoghurt can now be bought. By allowing the milk to become partially sour, and then adding some of the culture, Yoghurt can be obtained in a few hours if the temperature is kept at about 40° C.

W. JACKSON YOUNG, F.R.C.V.S., D.V.S.M. (Vict)
Sheffield.

ABSTRACTS FROM FOREIGN JOURNALS.

THE VALUE OF OIL IN PERITONEAL SURGERY.

Glimm, by experiments on dogs and guinea-pigs, has demonstrated the favourable effect of oil upon the course of peritonitis. Olive oil and other oils, in peritonitis caused by the *Bact. coli*, check in a high degree the resorption of bacteria into the circulation, while the oil is well tolerated by the peritoneum.

Glimm's results have induced Hirschel, at the surgical clinique at Heidelberg, to use camphor-oil (1 per cent.) intra-peritoneally after the performance of laparotomy in some severe cases of peritonitis in human beings. His results have been excellent. His procedure is first to remove the masses of peritonitic exudate by means of pieces of gauze, either dry or moistened with saline solution.

He then introduces camphor-oil up to a quantity of 100 grammes (about 3 1-3rd oz.) into the peritoneal cavity; and distributes and spreads it everywhere (viscerally and parietally) by means of pieces of lint.

In the most recent times, oil therapy of the peritoneum has assumed great importance. One report by Kolb, who used it in 53 cases of lapa-

rotomy, is exceedingly favourable; for only one of these cases terminated fatally.

Prof. Karl Keller, of Vienna, now reports (*Zeitschrift für Tiermedizin*) his experience of the method in three bitches, in all of which laparotomy was necessary. The first case was one of torsion of the uterus with peritonitis. The second was a case of extensive peritonitis arising from metritis, and was further complicated during the operation (extirpation of the uterus) by a purulent infection of the peritoneal cavity. All three cases were thus severe ones. All three recovered, and in each case Keller attributes the favourable result to the oil treatment.

In a fourth case the treatment proved useless; the patient, a bitch, being *in extremis* when operated upon. Section of the abdomen was followed by the escape of a large quantity of greenish-brown, turbid, foul-smelling liquid, mixed with shreds of placenta. The uterus contained putrid pups and was gangrenous in various places, at one of which rupture had occurred. The bitch died six hours after operation.

In addition to its effect in checking resorption, the oil introduced into the peritoneal cavity always creates a nidus unfavourable to the growth of pathogenic bacteria. Keller considers that paraffin oil in particular, on account of its chemical composition, possesses this special effect. He therefore uses paraffin oil sterilised by heat, employing about 50 grammes (approximately 1 2-3rd oz.) for each case.—(*Berliner Tier. Woch.*)

A PRACTICAL METHOD OF INDUCING HORSES TO SWALLOW FLUIDS.

The administration of fluid medicines to the horse is always a laborious task. Very often the animal resists swallowing the liquid, so that the greater part escapes again from the mouth. Combarret commends (*Bullet. de la Soc. Cent. de Méd. Vét.*) a method which he has now used for a long time, and which has always rendered him good service.

The horse's head is held up in the usual manner; and the administrator, standing upon an elevation, pours in the fluid from the side, introducing the neck of the drenching bottle over the tongue. As soon as a certain quantity of fluid is in the mouth and the horse refuses to swallow, a very little clean, lukewarm water is poured into one of the nostrils. The water, by its contact with the nasal mucous membrane, immediately induces a reflex action which causes the horse to swallow the mouthful. This manipulation is repeated until the whole draught is swallowed, and the result is that not a drop is lost.

It is important to take only a very little water—about three to four tablespoonsful—and to discontinue its instillation into the nostril immediately the horse has swallowed.—(*Berliner Tier. Woch.*)

W. R. C.

[We all know the difficulty of inducing some horses to swallow draughts. I have never heard of this method of combating it before, and think it would be worth trying. But it seems to me—and the author seems indirectly to admit—that it is not altogether a safe method in the hands of stable attendants.—*Transl.*]

VETERINARY ASSOCIATION OF MANITOBA.

The annual meeting was held in the Council Chamber of the City Hall, Brandon, on Tuesday, March 5th, at 9 a.m. The President, Dr. S. A. Coxe, occupied the chair, and the following members were present: Messrs. S. Robinson, W. E. Martin, W. R. Taylor, J. McDougall, W. H. T. Lee, M. B. Stiver, J. J. Kelliher, M. J. Preston, W. Leslie, J. Mack, W. A. Dunbar, C. D. McGilvray, I. B. Irwin, F. Torrance, H. Bradshaw, W. H. Smith, J. Young and F. M. Coombs.

The reports of the auditors and of the Secretary-Treasurer and Registrar showed that the affairs of the Association were progressing satisfactorily in most respects, but that the reserve fund had been seriously depleted by several unusual expenditures during the past three years. Some discussion ensued as to how this state of affairs could best be remedied, and it was finally decided that the annual fee should be raised from two dollars to four dollars.

The election of officers resulted as follows:—

President.—Dr. W. R. Taylor, Portage-la-Prairie.

Vice-President.—Dr. C. D. McGilvray, Winnipeg.

Secretary-Treasurer and Registrar.—Dr. F. Torrance, Winnipeg.

Examiners.—Drs. W. E. Martin, C. D. McGilvray, and F. Torrance.

Members of the Council.—Drs. S. A. Coxe, T. C. Lee, and Henry Bradshaw, in addition to the above.

Auditors.—Drs. Woods and Little were appointed for the ensuing year.

It was decided to hold the semi-annual meeting in the City of Winnipeg, in the Agricultural College, during the Midsummer Fair. The annual meeting will also be held during the coming year in Winnipeg.

Dr. LEE brought to the notice of the members a recent experience in which he had accidentally used sulphuric ether instead of cocaine solution when injecting a local anæsthetic for the operation of firing. The horse stood the operation much better than is usually found when cocaine is injected. There was absolutely no indication of feeling in the part, and the Doctor was surprised to find out that it was not cocaine he had been using.

A paper by Dr. Stanley Martin on "Enterectomy and Anastomosis of the Intestine of the Dog" was, in absence of the essayist, read by Dr. Dunbar.

Dr. MCGILVRAY presented an interesting paper upon "Hog Cholera," in which he described outbreaks that he had seen and measures taken to suppress them.

The members discussed the subject very thoroughly and some interesting points in connection with the diagnosis of the disease were elicited.

Dr. MARTIN asked if the essayist considered that the outbreak of disease had any connection with the invasion of rats.

Dr. MCGILVRAY did not think that rats would have been responsible for the recent outbreak, the fact that there were no rats known to be at Kenora, where there was an outbreak, renders this theory entirely untenable.

Dr. COXE asked if there was any one diagnostic symptom that could be depended upon? Any lesion that was always present? He also suggested that it might be well if the Department of Agriculture would notify the practitioners of any outbreaks of disease.

Dr. MCGILVRAY replied that as a servant of the Department he was obliged to carry out the policy that was imposed by those above, and although he might feel disposed to give information that was possible, still he had to recognize the fact that publicity was not always desirable. The Live stock industry might easily be affected by rumours originating from information carelessly given out. As to diagnostic symptoms, no one lesion could be depended upon with the exception of

the characteristic ulceration of the bowels, but, unfortunately, this condition is not seen except in chronic cases. The speckled colour of the kidneys is also an indication, but he considered the appearance of the lymphatic glands more characteristic than this. These were swollen and dark red, and had been likened to "strawberries with pimples on them." Ulceration of the bowels is usually found about the ileo-caecal valve, and the observer must not be confused by the appearance of the group of glands surrounding this part. Diagnosis is difficult in many cases, sometimes it is necessary to quarantine for a time before a diagnosis can be reached.

Dr. DUNBAR said that he had listened with great interest to the remarks that had been made, and congratulated the essayist upon the excellence of the paper which he had presented to the meeting. He had seen the first outbreak of hog cholera in Manitoba 26 years ago. He was then acting for the Dominion Government. The outbreak occurred in a piggery in Kildonan, where the owner had 350 hogs kept under the most filthy conditions imaginable. The food on which these animals subsisted was of the most horrible kind that can be imagined, even night-soil being included. The owner was unwilling to do anything, and the outbreak finally resulted in him losing all of his pigs but 50. Ulceration of the bowels was the chief lesion. This is a very important question to Manitoba, and veterinarians cannot be too well informed thereon. He had much pleasure in moving a vote of thanks to Dr. McGilvray.

Dr. MARTIN seconded the motion, and asked whether the Department advocated the use of serum.

Dr. MCGILVRAY replied that the Department does not advise the use of serum. This is a matter of policy—the slaughter of hog cholera cases was decided upon as best policy for Canada, as the outbreaks were not widespread and were confined to certain limits. Serum is used largely in the United States as a palliative and preventive measure.

Dr. I. B. IRWIN, of Stonewall, reported an interesting case of a cow which developed at intervals a very peculiar chain of symptoms, indicating some peculiar condition affecting the central nervous system. During attacks the animal would walk around in a circle, and in the intervals between attacks appeared to be perfectly normal. The cow made a recovery.

The members present suggested various possible causes.

Dr. COXE was of the opinion that it might have been a case of strychnine poisoning.

Dr. MARTIN suggested that it might have been caused by indigestion, the symptoms developing from toxins produced by decomposing ingesta.

Dr. LESLIE had seen a similar case in a horse. Poisoned wheat had been distributed round a field for poisoning gophers, and the horse had eaten some of this. This horse had spasms every hour for about twelve hours and finally died.

Dr. LEE had seen a similar case in a cow, but in this case it was strychnine poisoning. Spasms occurred about an hour apart and the cow finally recovered.

Dr. TORRANCE congratulated the essayist upon the way in which he had presented the paper. He considered that as a literary production it was one of great excellence. He thought that one of the symptoms presented by the cow could hardly be explained on the grounds of strychnine poisoning, that was the circular movements of the cow. As a rule strychnine poisoning did not produce this circular progression. He had much pleasure in moving a vote of thanks to Dr. Irwin, which was seconded by Dr. Coxe, and carried.

Dr. COXE introduced the question of the desirability of sewing accidental wound. In his opinion a wound must be a bad one and in a bad place, or he would not

sew it up. He finds that wounds do better if not stitched. Dr. Martin was of opinion that the average wound would do as well unstitched, but there are many wounds that require stitching. The owner in most cases imagines the veterinarian is not doing his duty if he does not stitch the wound. If we don't do it someone else will, and in many cases the wound is stitched for the reason that the owner expects it to be done. Stitches retain secretions, and in many cases do more harm than good.

Dr. DUNBAR thought that wounds did as well without stitches, horizontal wounds especially are much better without stitches. Stitches, however, are often necessary, and owners are hard to persuade of the uselessness of stitches.

Dr. COXE did not allow the owner to dictate to him how a case was to be treated. If he thought a wound was better without stitches, it didn't matter what the owner said, he wouldn't stitch it. He considered in most cases stitches were unnecessary.

Dr. LESLIE related an experience in which he used hair pulled out of the mane in order to stitch a wound, to which he had been called and discovered that he had no suture material. The wound did remarkably well, but three weeks later the owner wanted to know why grey scars had marked out the place of each stitch!

Dr. MCGILVRAY was of opinion that the best time to stitch was not immediately after the infliction of the wound, but from 12 to 14 hours later.

The following resolutions were adopted:—

"Whereas the Veterinary Association of Manitoba has learned with regret of the resignation of Dr. Rutherford from the position of Veterinary Director-General and Live Stock Commissioner of Canada, be it resolved that this meeting place on record its appreciation of the great services that Dr. Rutherford has rendered to Canada in the departments over which he has presided, and also to the veterinary profession. Copy of this resolution to be sent to him and also to the Minister of Agriculture."

"Resolved that this Association tender a very hearty vote of thanks to the Mayor and City Council of the City of Brandon for their courtesy in allowing the use of the Council Chamber for this meeting."

In the evening a very enjoyable banquet was held in the Hotel Cecil, Mayor Fleming presiding. A large number of members and friends were present, and enjoyed a very pleasant evening, enlivened by vocal music and speeches.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A meeting was held in the Imperial Hotel, Darlington, on Friday, March 1st. Mr. W. Awde, Stockton-on-Tees, President, in the chair. There were also present: Messrs. A. C. Forbes, Bishop Auckland; E. H. Pratt, Northallerton; W. N. Dobbing, C. G. Hill, and J. H. Taylor, Darlington.

In presenting the minutes of the last meeting the Secretary stated that in addition to those which had appeared in *The Veterinary Record* there was a minute which for reasons which he now explained he had not included in those published. This minute related to the expulsion of a member from the Association, and he had included it in the minutes now before the members.

It was proposed by Mr. Dobbing, seconded by Mr. Hill, and carried unanimously, that the minutes now presented, after a slight alteration, be taken as read and confirmed.

Mr. Blackburn sent a post-card regretting his inability to be present.

A communication was read from Mr. T. Faithfull-Davies with reference to an International Congress of Comparative Pathology to be held in Paris in October this year.

Several letters were read which the members had received from Members of Parliament with reference to the Coal Mines Bill, the Secretary stated that he had written to Capt. Jessel, M.P., thanking him in the name of the Association for the great service he had rendered the profession when the Bill reached the report stage.

The circular letter from Prof. Gofton was read asking the Association to appoint representatives in accordance with rule 36 of the National Association, to act as their representatives on that Council, and it was proposed by Mr. Hill, seconded by Mr. Forbes, and carried unanimously, that the President and Secretary for the time being each year be appointed by the Association.

CLINICAL CASES.

AZOTURIA.

Mr. PRATT said that he had at present under treatment a case of azoturia in a hackney mare. She had not been taken out of the stable for a few days previous to the attack, and was taken ill on the road. On returning home she went down in the box and showed the usual symptoms. Her temperature was 101°, and the urine was of a dark coffee colour. The treatment he had adopted was a dose of physic, hot fomentations to loins, injections of adrenalin, oil of turpentine, and ferri perchlor. He had passed the catheter night and morning, and that day the urine was much clearer and the mare was sitting up on her breast: she had not been able to rise yet, but he thought that she very soon would, and intended lifting her in slings if she could not manage alone.

The physic ball did not act, and he had given four injections of adrenalin in all. He did not put her into slings at the commencement of her attack as she seemed so comfortable lying, and he thought on that account she would be better resting.

Mr. AWDE said that he had recently had a case of the same disease in a mare who previous to the attack had not been out of the stable for three days. She was brought to his house, and he ordered her home at once, her stable not being far away, and she soon went down when she got there, and showed acute symptoms. The treatment he had adopted was hot fomentations to loins, sedatives, spirits æther nit., linseed oil, and stimulating liniment to loins, and of course he passed the catheter often. The next day as the mare wanted to be up he assisted her up with slings, and she stood for three hours and was then let down again. She, however, could never stand again; nothing in the way of treatment seemed to do her any good, and she died in a few days. The urine remained a dark colour all the time she was ill.

TETANUS.

Mr. AWDE said that he had recently had under treatment a rulley horse suffering from tetanus. Three weeks previous to becoming ill the horse was cut on the quarter with a "ship's plate," and the wound appeared to heal up alright. When first seen the horse was very nervous, jaws almost locked, and symptoms of tetanus well marked. He was put into slings in a dark box and treated with tetanin, one injection being given daily for eight days. The horse gradually improved, and was now having walking exercise and would soon be alright again.

Mr. Awde remarked that he always treated the disease with tetanin serum, and had been more successful with this treatment than any other he had tried. He had records of many successful cases.

Mr. FORBES said that he used to have a lot of very acute cases when he commenced practice at Bishop Auckland, and all died, but the last five cases he had treated had all recovered. He had treated two cases on one farm which were due to foot injuries caused, he thought, by the horses pricking the foot through having to drink from a dirty beck. Both these cases died, and quite recently on the same farm a horse had died from no particular cause, but from what the farmer told him it certainly pointed to another case of tetanus. He did not see this animal, but was told that it had a prick in the foot which was treated by the blacksmith. The horse got sound in a few days and went to work, went a little stiff behind, and died quite suddenly during the night.

It was not long before there was another case on the same farm, and when Mr. Forbes was called in the horse was working. This had similar symptoms to the last case, the farmer said. The serum treatment was adopted in conjunction with extract of belladonna and the case did well. He always advocated slings, a dark box, and belladonna, along with tetanin in these cases.

NUCLEIN.

Mr. FORBES said that at the last meeting the value of nuclein in the treatment of certain diseases was mentioned, and that recently he had employed it during an outbreak of influenza amongst horses where the temperatures of six of them were 106° to 107°. The temperatures came down rapidly after injecting nuclein. He had found, however, that in many cases the temperature went up again. He recently treated two horses on one farm with nuclein, both animals having pneumonia, but they both died, and on post-mortem gangrene of the lungs was found.

Mr. AWDE had tried nuclein with good results, but he was very fond of using glycerol heroin in cases of influenza accompanied with high temperature, and found its use most beneficial.

Mr. PRATT had tried nuclein on a case of mammitis in a mare which got cold in the autumn of last year. The mare was turned out to grass and mammitis developed, but in spite of every care she died.

Mr. HILL had used nuclein in cases of septic poisoning in cows caused by retention of the fetal membranes. He recently had a very bad case of septic poisoning in a cow which he had treated in the usual way by irrigating the uterus, and carbonate of ammonia and quinine. The case did not submit to this treatment, and looked like going the wrong way, but after injecting nuclein the cow commenced to pick up and eventually made a good recovery. He considered it most useful in canine distemper, after the febrile stage, as it seemed to pick the patients up, so to speak. In the case of the cow he had mentioned he gave her two injections, one the day he saw her and one two days afterwards.

He would like to record a very interesting case of tuberculosis in a dog which had recently been under his notice. The dog had been suffering from diarrhoea for two or three months previous to being seen by him. It took its food well, was very lively, the temperature was normal, but in spite of all the treatment he employed the diarrhoea continued. Suspecting tuberculosis, he injected tuberculin and got a splendid reaction, the temperature going up to 106° at the 12th hour after inoculation. He made a post mortem and found the mesenteric glands, lungs, and spleen all badly affected with tuberculosis.

Mr. FORBES said that the case of septic poisoning in the cow mentioned by Mr. Hill had reminded him of a similar case he treated a short time ago. This was in a heifer which he attended at calving, she having a very big calf, and he had to remove two fore legs before he could deliver. The heifer did well for three days and looked like making a good recovery, but she then took

a turn for the worse, commenced to blow, and looked like dying very soon from septic mischief. He used nuclein and the effect was certainly remarkable, as her temperature dropped, and in two days she was almost well again. He certainly gave nuclein the credit for the heifer's recovery.

SOME AFTER EFFECTS OF PARTURITION.

By C. G. HILL, M.R.C.V.S.

Mr. Chairman and Gentlemen,—After a little persuasion from our President I consented to open this discussion, this appearing to be a fitting subject after the paper which Mr. Blackburn read at one of our meetings a little time ago.

First of all I should like to mention accidental injuries to the vagina after a normal and unaided delivery. How often we country practitioners are called to a cow who is straining so much that one is afraid the uterus will become everted. On examination we find a tear of the mucous membrane of the vagina. We attend to it by antiseptic irrigation, put on a clamp and give strong sedative doses. Some cases will soon yield to treatment, while others continue to strain until they exhaust themselves, and you find the clamp producing sloughing of the lips of the vulva. No medicine seems to have any effect on the straining. I have tried Chlorodyne, Chloral Hydrate, Cannabis Indica, without the slightest effect. On post mortem you find the vagina with a nasty sloughing of the mucous membrane where the injury has been. Never in my experience have I had the same trouble in cases where injuries have taken place in difficult deliveries.

Retention of the Placenta.—The more one sees of these cases the more one is at sea as to whether the after-birth should be removed at once or given a little time. While one animal will retain the after-birth for a considerable time without any bad effects, another in 12 hours will show evidence of septic poisoning. In the case of cows, in my opinion, no placenta should be interfered with under 12 to 24 hours after a natural and normal delivery, as in the uncontracted uterus it is utterly impossible to reach all the cotyledons to separate the placenta.

In the mare and bitch experience teaches us otherwise, and the placenta should not be allowed to remain longer than 12 hours. Both these animals are very susceptible to septic poisoning from the uterus. Every practitioner has his own particular way of removing the placenta, so I will not go into details as to which is the best way, but I think you all agree with me when I hazard the opinion that weights attached to the after-birth cannot be too strongly condemned.

As to treatment to assist the expulsion of the after-birth, do drugs have any effect? I think it is a fair question, and I am of the opinion that they are useless. Ergot may have some action on the muscular coat of the uterus, but to my mind the only means is removed by manipulation, followed by antiseptic irrigations. The very best antiseptic for this purpose is, I think, Chinosol. You do not get the straining or irritable condition with Chinosol that you get with Hyd. Perchlor, Izal, or any of the tar derivatives.

I have also used pessaries which have been introduced for the last two or three years, but I cannot say they are the success that some veterinary surgeons give to them. I would particularly like the opinion of the members present on their uses, and what the base is of the pessaries they use, whether gelatine or cocoa butter.

In septic conditions of the uterus I think there is nothing better than daily washing out the uterus with a bucketful of Chinosol solution. I have seen this reduce the temperature of cows 2 degrees in 3 or 4 hours. This treatment, with internal administration of stimulants and tonics, I find the best.

In the bitch septic conditions of the uterus is nearly always fatal, and you cannot be too careful in the treatment during parturition. It is surprising, however, what a bitch will go through so long as you keep the uterus in an aseptic condition. There is a condition of the bitch, "endo-metritis," which reminds one of white heifer disease. I have had a good number of cases of this disease. The history you generally get is that the bed in the morning is wet, and there is a slight discharge from the vulva, and as time goes on the hind parts become scalded, and the abdomen distended, as though she is in whelp. No systemic disturbance is noticed until the uterus gets very dilated. The only treatment in these cases is surgical. It is no good trying to empty the uterus by the os, for if you succeed, which is most unlikely, the uterus will only fill up again. I have never hesitated, once I have made the diagnosis, but removed the uterus and the ovaries. In removing the uterus great care has to be taken, as the coats are very thin and easily ruptured, and you will flood the abdomen.

In mentioning this condition it is not exactly correct to call it one of the after effects of parturition, for I have seen it in a maiden bitch.

Post partum Hemorrhage.—This is a most alarming condition, and it has been my experience to be present at about six cases. The first case I saw was in a mare in my pupil days. The mare had been delivered by my preceptor of a live foal, and immediately the blood poured out of her just like out of a bucket and she died in less than five minutes.

My second was in a cow, but fortunately there was a bucketful of cold water and a roller towel standing in the cow byre. I immediately plunged the towel in the water and introduced it into the uterus and began swabbing the walls of the uterus, and it contracted and the hæmorrhage became arrested. The cow was very weak, but ultimately made a good recovery.

About two years ago I was called to a mare to remove the placenta. On introducing my hand I found the uterus full of clotted blood. I began to remove the clots when all at once the mare commenced to bleed, so I immediately had recourse to the towel and cold water, and the uterus began to contract, and I could feel it closing on my hand, and while this was going on the placenta dropped out. This mare made a good recovery. In these cases I think that is all you have time to do, as no hæmostatics have time to act.

There are many more conditions one could profitably enter into but time, I am afraid, will not permit. Any one of these already mentioned might have afforded a good paper, which would perhaps have been better than passing them over in an imperfect manner as I have done.

Before closing I should like to call your attention to a paper which has appeared recently in *The Veterinary Record* on the retention of the placenta, and the discussion thereon. It is a very good paper, dealing in a very practical manner with the subject. What appeals to me is the various opinions on the etiology of the subject. It is my privilege to attend the cattle market here, where every week some twenty to fifty cows give birth under, what I might say, most unnatural conditions. After taking long railway journeys, some give birth in open cattle trucks in their journey to the mart, they are knocked about, take pot luck in every way, whilst in the majority of cases they come from farms where everything is quiet, to a noisy, hustling condition, which is quite foreign to them. Under these conditions you would naturally expect you would get a number with retained placenta. This is not the case, for I get very few indeed. They never hurry a cow when calving, but give her plenty of time, in fact, nearly all calve without any assistance, and to my mind this answers the cause of a lot of these cases. If the cow were given more time during the act of parturition I think these

retentions would not be so numerous, except in cases of abortion and premature birth.

For these few disjointed remarks I ask your indulgences, and hope they will cause some profitable discussion on a matter which to all of us in our daily practice is one of ceaseless worry and anxiety. I thank you, gentlemen, for your patient hearing.

DISCUSSION.

Mr. PRATT thanked Mr. Hill for his very practical paper. He agreed with Mr. Hill with reference to the removal of the foetal membranes in cows and mares, and never allowed the membranes to remain longer than 12 hours in a mare. Of course, if he attended a mare during parturition he always removed the membranes after delivering the foal. He certainly liked pessaries in retention of the after birth, and made his own by putting half-an-ounce of salol in a gelatine capsule, and after mixing salol in vaseline and smearing it on his hands and arms found this an excellent practice when removing foetal membranes. He always used pessaries in conjunction with irrigation of the uterus and found this method of treatment the best. He remembered a case of post partum hæmorrhage in a heifer due to a slit in the vagina, where he packed the passage well and put on a clamp. On removing the clamp and packing in two days he found the artery bleeding, so took it up with the artery forceps and allowed them to remain there for four days, when they were removed, and there was no more trouble, and the patient did well.

He had had a few cases of dropsy of the uterus, but these cases usually did not do much good. About a couple of weeks ago he had rather an interesting post mortem on a sow which had been reported as a suspected case of swine fever. The uterus was full of yellow fluid and there would be quite two gallons of it, and in it were three pigs in a good state of preservation. The sow had a litter of pigs last September, and these pigs had been in the uterus since.

Mr. FORBES wished to thank Mr. Hill for his paper, which at this time of the year was of great importance. He agreed with the previous speaker that the sooner the membranes were removed after parturition in the mare the better. He liked pessaries best and had almost given up irrigation of the uterus. He did not think any medicines had any effect in removing the foetal membranes, but at the same time thought that until they came away, or were removed, it was advisable to keep the bowels acting well in the cow by giving aperients. He agreed that in these cases of violent straining in cows sedatives seemed to be useless. This was well illustrated by a case of eversion of the uterus in a cow which he had some time ago. It was a most difficult case to return the uterus, and took him fully one-and-a-half hours to get the uterus back in position, as it was so hard and swollen, and the cow strained so much. He got it back once, and on removing his hand out it came again, but eventually he was successful after lifting the cow by her hind legs with blocks. After putting on a clamp he raised the cow a good two feet behind. Her pains were most violent, and two ounce doses of Chloral hydrate were given at intervals during the night, but the drug was absolutely useless, the cow straining continually, and the uterus could be seen to be in the vagina and ready to be again everted if the clamp was removed. He gave the case up as hopeless after seeing her the next day, and was surprised to hear in a week or so that the cow was still living. He again went to see her and found her standing in the byre eating hay, and was informed that the straining, although present at times, was not so bad as it had been. As there now appeared some chance of her recovery he had her removed to a box, took off the clamp and out came the uterus. It had, however, now contracted to the size of a football, but was most offensive. As it was out of the question to

attempt to return the organ, amputation was adopted, and this was effected by means of the écraseur, after injecting eucaïne. No ligature was put on, and there were no after effects, the cow eventually doing well, and was sold as fat to the butcher.

Mr. DOBBING thanked the essayist for his interesting and practical paper. He agreed with the previous speakers as to the advisability of removing the placenta in the mare as soon as possible after parturition. In the case of the cow, however, he thought that they were better left, providing the animal was well otherwise, as one could not well remove all the attachments if the membranes were removed too early. He certainly liked the use of pessaries, and had found them most useful, and used them in conjunction with irrigations of the uterus. He once had a case of eversion of the uterus in a mare. The uterus was well washed with antiseptic solution before it was returned and a clamp applied to the vulva. It looked a bad case, and the prognosis was very unfavourable, but word came the next morning that the mare was living, and she eventually made a good recovery.

The SECRETARY had nothing to add to what the previous speakers had said, but had much pleasure in adding his thanks to Mr. Hill for kindly coming forward and giving them such an instructive and practical paper.

Mr. AWDE had come across cases in cows when the straining was most violent, and often no remedies seemed to be effectual in stopping the violent straining. He did not think that any medicinal agents were much good in assisting the expulsion of the foetal membranes. He had tried most of those which were recommended for that purpose, but with no satisfactory results.

He certainly liked irrigating the uterus in these cases, and found solution of chinisol the best agent to employ. Generally in cases of post-partum hæmorrhage you were not there in time to save your patient. He remembered a case of a heifer where there was a bad tear in the vagina, and he found that with dressing with chinisol the case made a good recovery.

He had very much pleasure in proposing a hearty vote of thanks to Mr. Hill for his paper which had been full of interest, this was seconded by Mr. Pratt, and carried unanimously.

Mr. HILL suitably replied. The members afterwards had tea together.

J. H. TAYLOR, Hon. Sec.

Contagious or Non-contagious Abortion: Claim for Damages.

On Monday at the conclusion of the criminal business of the Kilkenny Assizes, the Lord Chief Baron took up the hearing of a record case in which Mr. J. Cooper Chadwick, Fanningstown, in the south end of that county, sought to recover damages from Mr. Richard Gorman, Curraghmore, Kilkenny.

Mr. Chaytor in opening the case, said the action was brought to recover £500 damages for injury to plaintiff's cattle, caused, as they said by the excessive driving of those cattle by defendant. The plaintiff in the action, Mr. Cooper Chadwick, was a Tipperary man, who a few years ago bought a property in County Kilkenny. In 1909 he bought a house and farm at a place called Fanningstown, and started there a business of his own in connection with the feeding and selling of cattle. What he used to do was to buy young heifers in the spring, get them put in calf, and sell them at the end of the year. In the spring of 1910 he wanted to increase his business, and he took the grazing, an eleven month's agistment letting, of lands belonging to a Mr. Hearne, which comprised about fifty odd acres, and for which he

paid a rent of £60 a year. His idea in taking this land was that he would stock it with a lot of young heifers. He would then bring a bull in on the lands, get the heifers put in calf, and sell them at the end of the year. In the month of April 1910, he put on those lands which he had taken from Mr. Hearne some 52 young heifers. The heifers were then in perfect health and condition. That was at the end of April or the beginning of May 1910. Adjoining those lands which he had taken from Mr. Hearne was the farm of Mr. Gorman the defendant. The two sets of lands were separated the one from the other by one of those raised sod fences, with a barbed wire fence on top of it. There was only one stretch of wire fence on top of the sod fence that separated the two sets of lands. Where lands were close to each other like that there was always, naturally, a little trespass, and in the month of May there was a little trespass on both sides. Some of Mr. Cooper Chadwick's heifers got on to Mr. Gorman's land, and Mr. Gorman's bull got on to the plaintiffs land, and they made a complaint about it.

It was on the 5th of September that the circumstances arose that gave rise to the action which they had to try now. On that night 39 of the 52 heifers got into Mr. Gorman's land by means of a gap in the fence that separated the two farms. He did not know anything about Mr. Gorman, but on this particular morning he was very angry that these 39 heifers had got on his lands again. What the defendant did was about as wanton and illegal an act as was ever done between one man and another. He got his little boy of twelve or fourteen years of age, and two sheep dogs, and told this little boy to take the 39 young in-calf heifers and drive them along the public road to Mr. Cooper Chadwick's house, a distance of about 3½ miles away. He need not describe to them at any length the condition of these cattle when they got to Mr. Cooper Chadwick's house. They were blowing and perspiring, and some of them lay on the ground. They were in a shocking condition, distressed beyond measure, and one of them had one of her teats actually bitten off, evidently by a dog. Having seen the cattle, Mr. Chadwick immediately sat down and wrote a letter to defendant, which he gave to the boy to bring to his father. The next morning plaintiff went to his solicitor, who wrote defendant a letter pointing out exactly what had occurred, and complaining bitterly of it. In consequence of the ill-treatment to the heifers 11 out of the 39 heifers slung their calves. Not only that but it would be proved that the remainder of the 39 that were driven were in a miserable and poor condition and that they were worth nothing to plaintiff, considering that it had got abroad that some of them had slung their calves and the others had been seriously injured.

The plaintiff, sworn, corroborated his counsel's statement. One of the teats of one of the heifers was completely cut off, as if bitten. Eleven heifers slung their calves; eight were born alive, but all of them were born prematurely. He never had a heifer that slung her calf at Fanningstown, and he knew nothing about contagious abortion. In January last he commenced giving special feeding to these cattle to keep them in some sort of good condition, and though he had expended a considerable sum of money in that way he did not think he could sell the beasts presently. He estimated his entire loss at £500. His loss was made up as follows—by depreciation of cattle in value and in extra feeding. In reply to Mr. Carrigan, K.C., he stated that by the terms of the letting agreement in connection with the 50 acres Mr. John Hearne was not to be responsible for any trespass or sickness or death, but he was to pay a man to count the cattle on the place daily and report if any were missing. That was the extent of Mr. Hearne's responsibility under the agreement. The first stock he put on those lands consisted of 26 bullocks, and these were put on those lands on the 19th April, 1910. He then gave evi-

dence as to purchases of two and a half year old heifers, the total number being 63 and most of those, he believed, were sent to the land at Curraghmore.

Mr. Carrigan—You purchased those heifers at an average price of £8 10s apiece or less. Would you describe them now as they have been described yesterday? Wouldn't you consider them to be second-class heifers at best?

Plaintiff said of course the cattle were not of the very best quality, but he considered they were good value for the price he paid for them. In the letter which he wrote to defendant on the morning that the cattle were driven to his house he mentioned that there was only one dog with the boy, but when he was after giving the letter to the boy he saw the two dogs. He admitted that his cattle trespassed on Gorman's land and that he sent up his man to repair the fence. On the 1st Jan. last, for the purpose of seeing how he stood for the year, he valued the 55 in-calf heifers at £10 each.

Re-examined by Mr. Chaytor—I gave the other side all the information required without any order from the court; I kept nothing from them. I never had any difficulty in identifying the 39 cattle that were driven from the rest. I sold two calves of the 39 heifers and only got 25s. each for them. The average price for good calves on the occasion on which I sold these two was about from 45s. to 50s. each. The two calves that I sold were not developed.

Dennis Keefe stated that he was in the employ of plaintiff as herd and steward. Witness visited the lands of Curraghmore and made an inspection of the fence. He saw where the bank had slipped away, and he saw the marks of the cattle in the gap. The wire on the top of the gap was bent up somewhat, and it was under it that the cattle got into Mr. Gorman's land. If the cattle had not been driven as described and that they could be sold in the ordinary way, he believed they would fetch on an average £12 10s. apiece.

By Mr. Carrigan—I ascribe all this misfortune to the fact that these cattle were driven on that morning by a boy and two dogs. If I were driving those cattle myself I would have divided them into three lots, because it would be necessary to do so on a narrow road like that.

Mr. A. Dobbyn, V.S., Waterford, in reply to Mr. de Renzy, stated that on the 8th September he went to Fanningstown and was shown 39 heifers. They seemed dejected, tired, and out of sorts. Four of them were lame. The whole of them seemed to have a slight springing of the udder. Hardship or driving would have caused or produced the symptoms he observed. He had been attending the cattle since. Some of the cattle—thirteen—were more injured than the others, and those thirteen were kept separate from the rest of the 39. He noticed on his first inspection of the cattle that one of the teats of one of the heifers was completely cut off. It was a clean cut, and did not present the appearance of having been caused by barbed wire. The bite of a dog would have cut off the teat in the manner described. Witness then proceeded to give evidence as to his examination of the heifers and the calves which they had slung. To the driving, which caused the cattle to be in the condition described on the 5th September, witness attributed the premature births and abortions. Since witness saw the heifers on the 8th September there had been no improvement made in their condition, and the driving, as he had heard it described, would have been sufficient in itself to prevent them improving in condition. They were still in a miserable condition, and if they were sent to a fair at the present time he did not think it would be possible to sell them; it would, at all events, be very hard to get a purchaser for them.

Cross-examined by Mr. Swayne, B.L., witness said that it would strike him that the number of cattle grazing on the lands of Curraghmore was rather large, con-

sidering the acreage and the dryness of the weather ; he would not expect them to thrive very much on it. His theory was that it was the exertion which the cattle went through that brought about the abortions. The time that would elapse between the time of an injury and abortion would all depend upon the character of the injury. In the case of a blow he would expect abortion to take place soon afterwards. The facts of the case would not be consistent with contagious abortion. Usually when abortion was brought about by violence marks were apparent on the fetus, but there were no marks on the fetus in this case. He recommended no treatment for the 39 cattle when he saw them on the 8th September. He did not know how they would get on at the time, and he suggested that they should be kept separate from the other cattle. It would be an unusual thing for a sheep dog in the habit of being kept about cattle to bite their teats. He did not at any time entertain the idea of contagious abortion in regard to those heifers.

Re-examined by Mr. de Renzy : The length of time a cow would continue to carry her calf after she being injured would depend upon the nature of the injury, the animal's constitution, and other circumstances. One of the symptoms of contagious abortion was the ease with which the calf would be expelled, and difficulty in that respect, as had been stated to have accompanied the birth of those calves, would be inconsistent with contagious abortion. He had not seen any symptoms of contagious abortion on this examination of the heifers. There was no truth in the suggestion that he had at any time suspected the presence of contagious abortion amongst the cattle.

Mr. John F. Healy, V.S., an inspector under the Board of Agriculture, gave evidence to the effect that on the 11th February he was called into consultation with Mr. Dobbryn in connection with these cattle. Thirteen of the cattle which he saw on that occasion on plaintiff's farm moved very stiffly and were worth only about £4 or £5 apiece. The other 26 cattle he was shown were in fair condition, but of course if he were selling them he would hesitate about giving any guarantee as to the time they would calve, etc. Assuming that such a warranty could not be given, the value of the 26 heifers on the day he saw them would be £8 or £9 apiece. If any of the cattle were infected with contagious abortion the disease would have spread through the whole herd.

By Mr. Carrigan : The drive was sufficient to cause the stiffness which he noticed on the cattle. When he went there 26 were in one field, 11 in another, and two in the stall. If the 26 heifers could be sold with a warranty their value would be about £13 or £14 apiece. He would not call them first-class cattle. The warranty that was usually given at the sale of an in-calf heifer was that she would calve within a certain period. He was not told that the other cattle served by the same bull as these cattle were served by had aborted.

Sir John M'Fadyean, London, Chairman of the Departmental Committee appointed by the Board of Agriculture to inquire into matters in relation to abortion in cattle, was the next witness. He said that he received a sample for examination of the after-birth of a heifer belonging to Mr. Cooper Chadwick. He did not examine that sample because he thought it was not in a condition to be examined. His reply in regard to that sample to Mr. Dobbryn, V.S., was that if he would take the trouble to send him a sample of blood from the heifer he could give his judgment as to whether it was a case of contagious abortion or not. On the 7th March he received a sample of blood. He examined the blood and subjected it to a test—a very reliable test. The result of the test was that he was able to say that the animal to which the sample of blood belonged was not affected with contagious abortion. He subsequently wrote to

Mr. Dobbryn asking him to send him samples from three other cows that had aborted or calved prematurely, and last week he received three samples. He subjected these samples to the same test as the other sample had undergone, and in each case the test indicated that the cow in question was not affected with contagious abortion. His opinion was positive with regard to these four cases that they were not affected with contagious abortion, and though it might be probable that the other cattle were not affected with it he could not swear that they were not. It was quite impossible to predict, if contagious abortion were introduced into a herd of cattle, how many in the herd would abort. It was a fact well known to everybody that, as a rule, the fetus in cases of abortion came away without practically any assistance. Even considering that 39 heifers were driven and that only 11 aborted, the facts, as stated in the case, strongly suggested that the driving had to do with the abortion. He was quite positive that it was not contagious abortion. One had to find an explanation, and having listened to the evidence given in court and having regard to the special questions, he could see no other explanation of the abortion than overdriving.

Replying to Mr. Ringwood (a juror), who asked why it was that the abortions extended over some months and did not occur very soon after the alleged overdriving, the witness said there was a little difficulty in explaining that, but the explanation which suggested itself to him was that the abortion was not the immediate or direct consequence of overdriving but the indirect consequence of it.

Mr. Gorey (foreman) : In other words, you could not trace the abortion that took place to the driving of the cattle ?

Witness : It was the indirect cause.

Mr. Gorey asked the witness how he accounted for the abortion taking place in December and January, and in some cases in February and March, when this overdriving was alleged to have taken place on September 5th.

Witness : I feel bound to accept the evidence I have heard in this court, that as a consequence of this overdriving the general health of these cattle have been most severely injured.

Mr. Gorey, on behalf of the jury, said they were satisfied to accept the evidence that there was not contagious abortion.

Prof. Mettam, Principal of the Royal Veterinary College, Dublin, gave evidence as to having examined an after-birth of a cow belonging to plaintiff that calved on the 25th February. He made a very careful examination and the result was absolutely negative. He found no trace whatever of contagious abortion. That these abortions extended over a rather long period might, he thought, be accounted for by the fact that the cattle, as in health, lost their tone, and were reduced to a state of general debility.

Patrick O'Brien gave evidence as to having sold a bull to Mr. Cooper Chadwick. The bull had served some of witness's cows and they calved all right.

DEFENCE.

Mr. Carrigan, K.C., in an able speech having stated the case for the defence.

The defendant, Mr. Gorman, was then examined by Mr. Swaync. He stated he lived at Curraghmore, where he held 175 acres of land. The fence which divided his land from that held by the plaintiff was a sod fence with barbed wire railing on top. There was a big dyke on his side of the fence nearly the whole way through except for a distance of about 100 yards. In parts the fence at plaintiff's side was only 2 feet high, and in other parts it was 6 or 7 feet high. In the months of April and May plaintiff's cattle trespassed on his lands, and after that the fence was repaired by putting up new stakes, with barbed wire. On the 4th September

he was at the fair of Clonmel and did not return until about 10 or 11 o'clock that night. The fields of his joining the land held by plaintiff, and which consisted of about 11 acres, were under aftergrass. He did not see the cattle on the morning of the 5th September. When he came home on the previous night he was informed by his son that there were 47 or 48 cattle on the aftergrass and that owing to the gates being locked the cattle could not be put in on Mr. Chadwick's land and that he left them on the road. His son told him the following morning that the cattle were in on his land again. That was about 6 o'clock a.m., and he told his son to drive them home to Mr. Chadwick or they would kill themselves going over the fence when he could not open the gate to let them in. He (defendant) had only one sheep dog, which was about ten years old and which was used to cattle from being about them every day. He never saw the dog catch a beast in his life; in fact, that was the only objection he had to him. Apart from waste and the portion he was keeping for meadowing, Mr. Chadwick had about 30 acres of pasture at this place, and considering the dryness of the year and the scarcity of grass he would not think there was grass enough for the stock Mr. Chadwick had on the land. To his knowledge the cattle were breaking out on other lands around the place. He saw the two gaps through which the cattle got into his land. The bank was broken down, one of the posts was broken, and the wire was pulled into his (defendant's) field. The gripe at his side of the fence would be about 6 feet wide. He also found marks on the fence dividing plaintiff's land from the road, showing that the cattle effected an entrance from the road on the night of the 4th September. Chadwick's cattle were a thin, poor class of cattle, and appeared to be of a very inferior class. They showed signs of want of proper feeding. He saw at Fanningstown six calves which were represented to him as being calves of some of the cattle that were driven; three of them were very fair, one was very good, and another was very small. He never saw half as much stock on the land at Curraghmore as Mr. Chadwick had on it during that year.

Mr. Chaytor: Isn't it rather strange that these very poor, thin cows should produce these very good calves?

Defendant: No, it is not strange.

Did you say at the quarter sessions in Piltown when a case of trespass was being heard that these heifers were in very good condition?—No.

Isn't it a strange thing that when you got those letters from Mr. Chadwick and his solicitors you never took the trouble to go look at these cattle until the present month?—I had nothing to see on them. My son told me that one of them had one of her teats cut, and that a white heifer was blowing.

Continuing, the defendant said the letter his son brought him from Mr. Chadwick and the letter he received from the plaintiff's solicitors told him about the other cattle. He did not believe what Mr. Chadwick said in his letter.

Asked by Mr. Chaytor why he did not send his workman, John Butler, to look after the cattle that morning with his son, defendant said Butler was not at work at the time his son went to see after the cattle. Even if Butler were at work and that he sent him to look after the cattle, he would not have anyone to milk his own cows. He did not swear at Piltown that he sent Butler with the cattle. He never saw the man Kenny on the land. He did not know that Kenny was supposed to be looking after Mr. Chadwick's cattle. He often saw Kenny crossing Curraghmore across his (defendant's) own land. Kenny had charge of a farm further on than Curraghmore. He never saw anyone looking after the cattle there but Keefe.

Richard Gorman, son of defendant, gave evidence of driving home the cattle on the morning in question. When he arrived at Mr. Chadwick's one of the men

employed by the latter pointed out to witness one heifer that had one of her teats cut off. He hadn't noticed the heifer bleeding until then. He had only one dog with him, and he was an old, quiet dog. He did not see the dog snap at any of the cattle. He did not use any violence towards the cattle, or drive them fast or beyond the ordinary pace. The dog made no attack on the cattle, and he drove the cattle with ordinary care.

By Mr. de Renzy: He didn't know the heifers were in calf at the time. When he came down to his father the cattle were on the road, and they remained there while he was taking his breakfast. The white heifer was bleeding because she was in better condition than the others. None of the cattle lay down at Chadwick's while witness was there.

Patrick Byrne said he saw young Gorman driving the cattle the same as anyone would drive them. The cattle were going along quietly. Young Gorman had only one dog; the dog was not worrying the cattle in any way.

Mr. James Craig, Professor in the Royal Veterinary College of Ireland, Dublin, in reply to Mr. Swayne, said that presuming that there was violence used and if the abortion was directly attributable to that violence, it would take place a short time after the violence had been inflicted. If overdriving was the direct cause of this abortion, then it should have occurred within a short time after the overdriving.

Mr. Chaytor: Supposing, now, that the abortion was not directly caused by the overdriving, but that the overdriving caused the condition and constitution of the heifers to be lowered, would that account for the abortion extending over several months?—In my opinion, it would not. The effect of the overdriving would only be temporary.

Mr. Michael Quirke, of a firm of Carrick auctioneers, who was summoned by subpoena, gave evidence as to having carried out an auction of cattle for plaintiff at Carrick fair on the 28th December. He sold three cattle for £12, £11 10s. and £11 each, and as there was a reserve price of £11 each put on the other sixteen by Mr. Chadwick they were not sold. He got bids up to £10 for some of them but no more. He got no bid for some of them—perhaps two out of the five that he put up for sale, besides the three that were sold.

In reply to his lordship witness said that although Mr. Chadwick said they should get about £11 each for the sixteen cattle, witness knew that they were not worth that figure. He would consider that they would be dear at ten guineas each.

Mr. Gorey (foreman) said that before the case proceeded any further some of the jury desired him to say that it was their wish that the counsel on both sides would come together with a view to arriving at some agreement. That was not the unanimous wish of the jury, but of a section of it.

His Lordship said he was sure counsel on both sides would consider the suggestion. He would rise for a quarter of an hour to give counsel an opportunity of coming together. He hoped they would succeed in effecting a satisfactory settlement, but his hopes were not always realised.

Counsel on both sides then left the court, and after an absence of some minutes returned, when Mr. Chaytor announced that it was impossible to arrive at a settlement. They had done their best, and he was sorry that they could not effect a settlement.

John Walsh, farmer, Castletown, stated that on the 24th March and 12th April, 1911, he sent a heifer to be served by Patrick Brien's bull. The heifer slung calf on the 15th November, to the best of his opinion. The heifer had slung calf in December, 1910, she having been served in that year by a bull belonging to a man named Dywer. Witness was at Carrick on the 28th December when Mr. Chadwick's cattle were put up for

sale. He heard a bid of £12 being made for one of them, and £10 10s. for another. He did not think the latter bid was accepted.

Mr. T. A. Mulcahy, V.S., Clonmel, stated that on the 15th January he visited Mr. Chadwick's place at Fanningstown. He saw there three heifers which he was told had slung calf in a house; he also saw two heifers with calves, both alive, a heifer that calved on the 3rd January, and another that had calved on the morning that witness arrived. He was pointed three heifers that had aborted. The cattle were of a bad class, West Cork cattle. They were small, inferior cattle. He was pointed out thirty-five other cattle, alleged to have been driven. They were all inferior cattle. He saw the land at Curraghmore, and he considered that the pasture there was not sufficient to keep fifty-eight cattle during last summer. There were about ten acres of it fairly good, but the rest of it was bad. His opinion was that only three of the heifers aborted, and that these were suffering from contagious abortion.

Continuing, the witness said that if the cattle had aborted the day after the drive then there would be grounds for supposing that the drive had something to do with it. In his opinion, and considering the space of time between the day they were driven and the 11th October, when the first one slung calf, it was ridiculous to connect it with the driving. He said that three had only aborted, and the calves that he saw on the grounds were, in his judgment full-time calves. He did not admit to the plaintiff that the calves were premature calves, and Mr. Chadwick would be making a mistake if he said that witness made such an admission. The after-birth that Professor Mettam tested was that of a healthy cow that had calved up to her time. Asked if he could reconcile his statement that the calves he saw were full-time calves and the period during which the bull ran amongst the herd, witness said that plaintiff had no knowledge that the heifers, or some of them, had not been bulled at the time he bought them. A decent in-calf heifer would cost £17 or £18.

Mr. Gorey asked the witness which, in his opinion, the

leaping over the fences on the night of the 4th September or the driving as described would be most likely conducive to abortion?

Witness: The leaping over the fence of course, but they would sling that night or next day.

Mr. Gorey asked if two or three cows in a herd aborted without any of the circumstances stated being present at all, would that be a due or undue proportion to abort?

Witness: It would be but usual. An odd heifer slings in every herd.

This closed the evidence, and Mr. Swayne and Mr. de Renzy then addressed the jury at considerable length.

His Lordship then reviewed the evidence and said the only direction in law that he had to give the jury with reference to the entire case was, that the onus of proving to their satisfaction that the injury to the cattle was caused by the driving home, to the plaintiff. The questions his Lordship submitted to the jury were:—Were the manner in which and the speed at which plaintiff's cattle were driven from Curraghmore to Fanningstown by defendant's son reasonable? (2) If not, did such unreasonable driving injure plaintiff's cattle or any of them? The third question left to the jury was that of assessing the plaintiff's damages. His Lordship said that if they were of opinion that the cattle were driven in a reasonable way they would find a verdict for defendant, because the real cause of the action was driving them in an unreasonable way.

In reply to a question asked by Mr. Bloomfield, his Lordship explained that the defendant was not responsible for anything that took place on the night of the 4th September. The boy was entitled to turn the cattle out of his father's aftergrass on to the road, and nothing had been proved to show that he used undue force, or anything of that sort. All the jury had to consider was the drive of the 5th September.

The jury then retired, and after an absence of close on an hour and a half, returned, when the foreman announced that there was no possibility of an agreement.

The jury was then discharged.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.		Parasitic Mange.	Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.			Out-breaks	Slaughtered.*
IRELAND. Week ended Mar. 16	...	...	...	...	...	...	1	14	5	41
Corresponding Week in {	1911 ...	...	...	...	1	1	2	5	1	3
	1910 ...	...	...	...	...	...	2	17	3	27
	1909 ...	...	...	...	...	...	2	5	...	12
Total for 11 weeks, 1912	...	1	1	...	...	...	25	195	25	186
Corresponding period in {	1911 ...	3	3	...	1	1	27	183	31	586
	1910 ...	4	6	...	...	...	22	230	10	255
	1909 ...	1	1	...	...	...	27	189	8	71

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Mar. 19, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders.* (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended Mar. 23	23		24				6	12	72	170	6	67	694
Corresponding week in	1911	14	17				2	3			5	61	630
	1910	28	29				12	23			9	24	261
	1909	21	25				17	89			15	23	354
Total for 12 weeks, 1912	303		333				42	94	1468	3448	139	724	8850
Corresponding period in	1911	244	281	1	18	48	179				275	462	5213
	1910	368	440			87	242				273	281	2094
	1909	333	478			131	446				356	333	2877

* Counties affected, animals attacked: Essex 2, London 8, Middlesex 1, Warwick 1.

Board of Agriculture and Fisheries, Mar. 26, 1912.

Outbreaks											
IRELAND. Week ended Mar. 23				...	...	...	...	...	...	2	6
Corresponding Week in	1911	...	...	...	...	...	...	...	...	2	14
	1910	...	...	...	...	...	...	...	...	...	13
	1909	...	...	...	...	...	...	...	...	1	8
Total for 12 weeks, 1912	...	1	1	...	...	...	...	...	...	27	201
Corresponding period in	1911	...	3	3	...	...	1	1	...	29	197
	1910	...	4	6	...	...	...	...	...	22	243
	1909	...	1	1	...	...	...	...	...	28	197

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Mar. 25, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Vivisection and the Veterinary Profession.

To the Editor of "The Referee."

Sir,—Are those people who rage against vivisection aware of the terrible cruelty that is going on in this country every day? I allude to the operations performed on animals by unqualified men whose only qualification is, in many cases, that they are cheaper than the properly qualified man who has spent about six hundred pounds and four or five years of study to acquire his knowledge. The unqualified men are generally ignorant of the first rudiments of anatomy, yet they cut and hack animals and the law allows it. If a man loses his temper and beats a horse unmercifully, or a coster works his lame donkey, he is punished, but one of these unqualified men may castrate an aged stallion, unnerve a horse, perform tracheotomy, or cut down to the bone the shoulders of an animal without using an anæsthetic, and the law allows it.

Surely no man who is not properly qualified should be allowed to use a knife in major operations, and certain of the operations which cause great pain and which could easily be scheduled by experts should not be allowed to be done, save under an anæsthetic, by anyone. The extra cost would be a few shillings more.

And then the use of drugs by unqualified men is too absurd for words. They mix drugs together and administer them to the wretched animals under their charge. But they are absolutely ignorant as to the effect the drugs have on the animal. They pour into the stomach of the beast, of which they know nothing, noxious mixtures, of which they know less.

The Royal College of Veterinary Surgeons does not allow a man to style himself a veterinary surgeon unless

he is qualified, but the individual may call himself a horse doctor. Yet in the place he practises in he is known only by the name of "Vet."

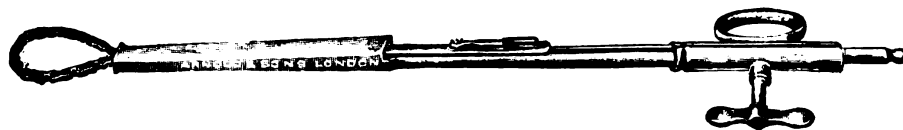
The R.C.V.S. does not allow a qualified man to employ an unqualified assistant, but this law is hardly ever enforced, as dozens of qualified "vets." do not send their sons to college now because, they argue, it is useless to spend five or six hundred pounds on the education of a lad when he can practise for nothing, and when a blacksmith or groom, or anyone else, in fact, can carry out all the duties of a qualified man, and the law does not interfere.

This is proved, for at the present time there are only 180 students at the Veterinary College in Camden Town. A few years ago there were three or four hundred, and yet there are as many men acting as veterinary surgeons as ever there were. The funds of the College are in a very low state, the place out of repair, and lacking many things that are absolutely necessary. Unless something is done quickly we shall soon have no qualified men, and shall drift back to the animal doctor of a hundred years ago.

If the public realised what was going on in this necessary profession it would force legislation to alter this abominable state of affairs, for there is far more brutality perpetrated on dumb animals every day in England by men acting as veterinary surgeons, sanctioned by the law, than could occur with vivisection in a hundred years. I have no axe to grind with regard to the veterinary profession, as I am a tradesman, but I have stated facts which cannot be contradicted and which are a blot on England's humanity.—I am, sir, yours, etc.

PATE, J.P.

County of London Magistrates' Club.



AN ÉCRASEUR FOR OVARIOTOMY OF THE MARE OR COW.

So far as I am aware, there has not yet been brought before the notice of the veterinary profession, an écraseur which is equally suitable for spaying mares or cows, and this one here illustrated, is the result of several models, which have been made at my request, by Messrs. Arnold and Sons, of Giltspur Street, E.C.

I have thoroughly tested the Instrument on a large number of dairy cows, and over fifty vicious mares, and claim for it the advantage that, with the handle in the position here depicted, there is much greater facility for working conveniently: and that in the cases in which one meets with an unusually tough pedicle (a very common occurrence in a vicious mare) there is no difficulty whatever in removing the ovary, even with the most blunt-edged chain.

FREDERICK HOBDAV, F.R.C.V.S.

Kensington.

Mendelian Experiments with Thoroughbred Horses.—Details of a New Scheme.

We are in a position to state that, thanks to a generous gift to the Board of Agriculture and Fisheries by Capt. Dealtry C. Part, of the 21st Lancers, for the purpose of carrying out experiments on Mendelian lines, it has been possible to inaugurate one of the most important experiments ever undertaken in the history of horse breeding.

Since the discovery in 1900 of the Abbot Mendel's long-lost memoir on heredity a large number of experiments on Mendelian lines have been carried out with the smaller domesticated animal and in other directions with most successful results. So far, however, owing largely to lack of resources, no serious attempt has been made to experiment with horses on an adequate scale. Capt. Part's gift comes therefore at a most opportune moment, and, in view of the intrinsic value and paramount usefulness of the British thoroughbred as a foundation stock all over the world, it is particularly fitting that scientific experiments should be begun with this ancient and highly-specialized breed.

With the concurrence of the Board of Agriculture the scientific direction of the experiments has been entrusted by Capt. Part to Maj. C. C. Hurst, F.L.S., Director of the Burbage Experiment Station and a member of the Advisory Council on Horse Breeding. As one of the leading authorities on Mendelism, and the first to apply the Mendelian principles of heredity to the thoroughbred horse, Major Hurst is naturally fitted for the scientific direction of Capt. Part's experiments. Mr. F. W. Carter, Superintending Inspector of the Board of Agriculture, who is largely responsible for the Board's light horse-breeding scheme, has been detailed by the Board to watch and assist the experiments on their behalf, and, in conjunction with Capt. Part, has completed arrangements in time for the present breeding season.

OBJECTS.

Notwithstanding the remarkable differences of opinion existing in regard to horse-breeding in general, most people seem to be agreed on two points—first, that the best type of light horse for purposes of general utility

is the weight-carrying hunter; second, that the best foundation stock for crossing purposes is the thoroughbred. The practical object of Capt. Part's experiments, therefore, is to utilize the recently-discovered Mendelian principles of heredity in order to make, if possible, a true breeding race of speedy, staying, weight-carrying thoroughbreds possessing the necessary jumping temperament which will enable them to hold their own across country. In other words, an attempt is being made to segregate out of the present thoroughbred a distinct breed with the qualities of a weight-carrying hunter; a breed that may not only be relied upon to breed true, but which will at the same time give more uniform and definite results when used for crossing purposes.

For the country generally this latter point is the most important of all, for the stallions of such a breed might with advantage take the place of the present Premium stallions, which, by reason of their variable nature, at present necessarily yield such mixed results, to the disappointment and loss of all concerned.

METHODS.

A careful study of the parents and relatives of weight-carrying winners of long-distance steeplechases in England and Ireland during the last few years led Major Hurst to the discovery that the material for such a breed is already in existence. This discovery of the true breeding 'chaser' was announced at the Portsmouth meeting of the British Association for the Advancement of Science in August last, and also at the International Conference of Genetics held in Paris in September. A detailed account of these researches is being published in the report of the Burbage Experiment Station for 1911.

PURCHASES.

Little difficulty has been found in securing the true-breeding females required for the experiment, and the following animals have been purchased:—

Ballymacarney (Royal Meath—Cinnamon).

Frigate (Red Prince II.—Athela).

Breemount's Pride (Kendal—Mavourneen).

Revolving Light (Red Prince II.—Hawkeye).

A two-year-old filly out of a Hackler mare by Creangate.

A yearling colt out of a Hackler mare by Creangate.

A yearling colt out of Breemount's Pride by Missel Thrush.

Two of the brood mares will be with Major Hurst at the Burbage experiment station, Leicestershire; and the remainder with Captain Part at Haresfoot, Berkhamsted, Hertfordshire.

In regard to the true-breeding males a temporary difficulty has arisen, because, owing to the common practice of cutting the colts put to chasing, it has been found impossible to find a true-breeding stallion for this season's services. Such suitable true-breeding males as Cackler (since dead), Rathnally, Jenkinstown, Ballymacad, Ballymadun, Ballyhist, Carder, Covertcoat, Flaxseed, and Shanawan are all unfortunately unavailable, for the simple reason that they have been added to the list of geldings. For the present season, therefore, the true-breeding females will have to go to the alternative stallions, St. Aidan and Perigord; these matings may be expected to give about one-half of the foals of the kind required.

An interesting point may be noted that a leading feature of the scheme is that all the stock bred in Captain Part's experiments will be trained and raced in

order that the progeny may be tested thoroughly and practically.

The operations and results of this experiment will be more than interesting; they will be instructive, and even if in time to come they prove abortive, the experiment will have been well worth making, if it only demonstrates that Mendelism is inapplicable for the purposes in view. If, however, success follows, then an opening will be provided to breed for definite results on a larger scale.

Rapid Detection of Negri Corpuscles.

Martiri (*Rif. Med.*, June 5th, 1911) recommends the following method: A small piece of the cornu ammonis, either fresh or fixed in alcohol, is placed in a small porcelain dish, triturated with six or seven drops of pure neutral glycerine until it attains the consistency of a homogeneous paste. To this paste is added two drops of 0.30 per cent. solution of marine blue in absolute methylic alcohol, and the whole mixed, and a few seconds later one drop of a saturated ethylic alcohol solution of eosin is added. The preparation is then creamed in the usual way; the Negri corpuscles show up as violet objects inside the blue nervous cells. —B. M. J.

The Effect of Calcium upon growth of Bacteria

Kindborg, of Bonn, has been investigating the possible effect of calcium upon the growth of certain bacteria, and reports (*Berlin. Klin. Wochenschr.*) his results. He has introduced calcium in varying proportions into the culture media (glycerine agar) in which the organisms were grown; and has found that pneumococci, staphylococci, and coli, typhoid, tubercle, and diphtheria bacilli grew distinctly more luxuriantly upon media containing calcium than upon ordinary media. This increase in the luxuriance of growth was most marked in the media containing the highest proportions of calcium.

The author remarks that if, as is maintained in the case of tuberculosis, the assimilation of calcium by the patient exercises a favourable influence upon the course of the disease, this must be attributed to the effect of calcium upon the body tissues, not upon the bacteria. He concludes that, in the cultivation of bacteria which grow feebly upon the usual media, an attempt with a medium to which calcium has been added is advisable. —(*Berliner Tier. Woch.*)

Donations to R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donation to the College funds from:

Mr. A. W. Reid, Bromley, Kent	£1 1 0
Amount previously acknowledged	9 9 0
	£10 10 0

Nearly all those people who are interested in keeping, breeding and handling live stock use from time to time various disinfectants, insecticides, taeniafuges, anthelmintics and medicines, and those who wish to keep their stock healthy may well consult the Izal Veterinary Handbook. This small book gives an account of the precautions necessary to avert or remedy the ills which beset stable, kennel and poultry yard. It is frankly an advertisement of the various Izal disinfectant preparations, which have gained the highest awards obtainable in open competition, but it is something more than that, and readers will find in it much useful information. It will be forwarded free of charge to any address on receipt of a postcard, addressed to Messrs. Newton, Chambers and Co., Thorncliffe, near Sheffield.

BIBBY'S BOOK ON MILK. SECTION IV. BOVINE TUBERCULOSIS: CAUSE, CURE, AND ERADICATION. A Summation of Material Facts and Eminent Opinions for the Use of Farmers, Cattle-owners, Milk Producers, Veterinarians, Students, and Others. With appendices on the diseases which simulate tuberculosis, actinomycosis and Johne's disease; also appendices on calf mortality and the destruction of rats, and a glossary of technical words. With 80 illustrations, including 11 full-page coloured plates and 35 portraits of eminent authorities. First Edition. Pp. xvj. + 459. Price ten shillings net. Published by J. Bibby and Sons, Feeding Experts, Liverpool.

This volume being suited for popular rather than professional readers, does not call for a lengthy review. It is one section of a series of seven volumes which Messrs. Bibby, the well-known manufacturers of feeding stuffs, are preparing; the whole being designed to form a complete guide to the large and very complicated question of milk production. Tuberculosis is certainly well worthy of a separate volume in such a series; and the volume now issued will be a very valuable popular educator upon the subject.

The nature of the book is well indicated by its voluminous subtitles. It is not so much an original work as a careful and comprehensive compilation of the views of the chief authorities of the world upon bovine tuberculosis. Every department of the subject is covered upon broad lines—the causation and importance of the disease, the relationship of human and bovine tuberculosis, the symptoms and lesions of the disease in cattle especially; the infection of dairy products, the communicability of bovine tuberculosis to man, the economic aspect of the bovine disease, and the measures for its limitation and eradication, the last being dealt with especially fully.

The work of selection and arrangement has been well done; and the whole work forms an excellent survey of modern knowledge and opinion of the subject. It will be valuable to many readers, and perhaps most so to the educated man who, with no professional knowledge of the subject, is keenly interested in it. Though remarkably free from abstruse technicalities, it nevertheless takes the reader more deeply into the subject than many laymen will care to go. On the other hand, so much of its matter is common knowledge within our profession that its chief use to the veterinarian is that he may not otherwise possess the same amount of fact and opinion enclosed within one cover. It is pre-eminently a book for the educated non-professional reader; and there are many such who will find it invaluable. Its publication is a welcome sign of the times.

W. R. C.

OBITUARY.

Mr. T. H. CLAPP, V.S., Hampton Villa, 4 Westcliffe Gardens, Herne Bay, died on Feb. 20th, from hemiplegia, following nephritis. Aged 66 years.

Veterinary Societies—Addresses.

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester

Treas: Mr. J. B. Wolstenholme, F.R.C.V.S.,

Quay-street, Manchester

Hon. Sec: Mr. G. H. Locke, M.R.C.V.S.

Grosvenor Street, Oxford-st., Manchester

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Fountain Court, Templ., E.C.

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Moore Street, Abattoir, Glasgow

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Pres: Dr. Gibbons, M.R.C.V.S., Vancouver,

Hon. Sec: Dr. Hamilton, M.R.C.V.S., Victoria.

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Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S.,
122 St. George's Avenue, Tufnell Park, N.

Meetings, First Thursday in each month, except August
and September, 10 Red Lion Square, Holborn, at 7 p.m.

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87 High Street, Lowestoft

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Hon. Sec. Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon

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Pres: Mr. E. J. Mellett, M.R.C.V.S., Henley-on-Thames

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Meetings, Last Friday, Jan., April, July and Nov.

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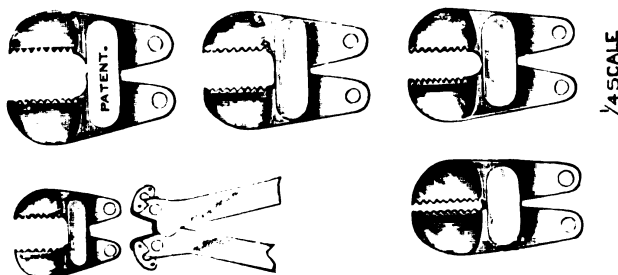
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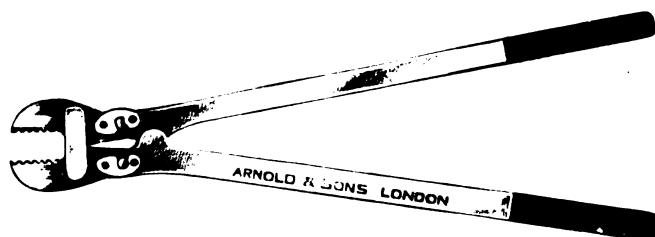
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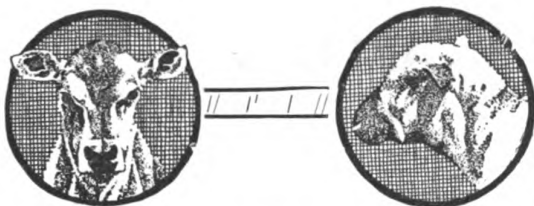
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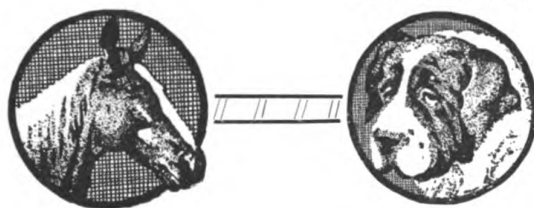


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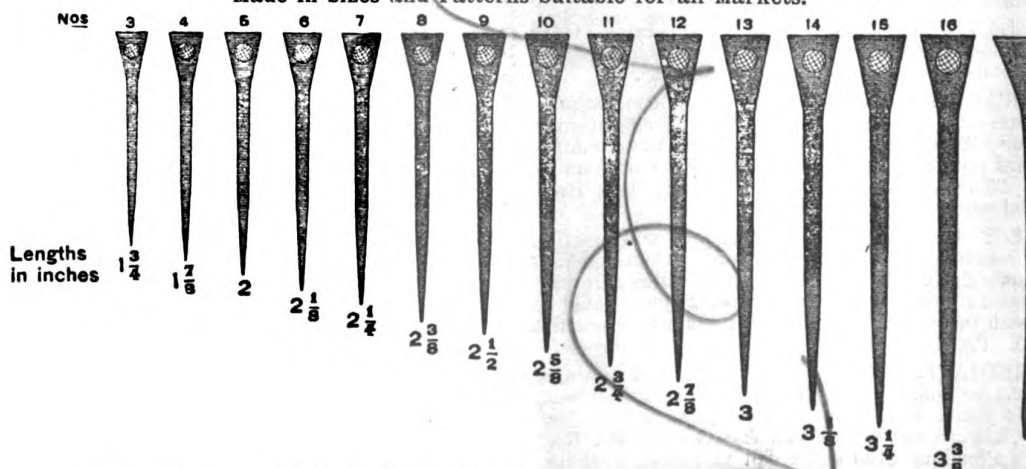
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No. 1239.

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1239.

APRIL 6, 1912.

VOL. XXIV.

"THE PRIVATE HORSE MART."

No. 2 of this new publication has been sent us with a marked paragraph of interest to the veterinary profession. The paper consists of some pages of advertisements of horses. The descriptions of the animals are somewhat imaginative, but a footnote says "The Editor does not hold himself responsible for errors, inaccurate descriptions or alterations of prices." The front page is occupied with Editorial notes, and this is one of them:—

"One correspondent made a most valuable suggestion, namely, that an alphabetical list of towns should be given in "The Mart," and in each one of them the name and address of a Veterinary Surgeon mentioned. Intending buyers could then communicate with a Veterinary Surgeon in the district, and obtain, at a reasonable price, a report on a horse advertised before either inspecting it, or sending a groom to do so. This idea we have vigorously taken up, and the Hunt Secretaries are now being asked to name the Vet. who has the largest practice with the followers of his Hunt. The Secretaries are most kindly giving us this information, and we hope very shortly to publish such a list, the utility of which is likely to be great."

We have no doubt that if this proposal is really put into practice, it will meet with universal objection from all practising veterinarians. Hunt Secretaries may be honest gentlemen, but this new function of "naming the Vet." is one we hope they will decline without pressure from our Registration Committee.

A QUESTION FOR IRISH VETERINARY INSPECTORS.

The following paragraph was contributed to last week's *Lancet* by its "Own Correspondent" from Ireland:—

"On March 21st, at Newtown Stewart Petty Sessions, a farmer summoned a servant for leaving his work before his period of hired service was completed. The evidence showed that about Feb. 18th one of the complainant's cows became sick and was brought into the kitchen, where it calved. It remained there for nine days when it died. The milk, which was sent to the creamery, passed through this kitchen, and the servant actually had to sleep in this kitchen. The servant said he had not been in good health, but put up with it as long as he could. The case was dismissed, the defendant being allowed 10s. costs. What is the use of veterinary inspectors when such a state of affairs is tolerated?"

We are insufficiently acquainted with Irish regulations to know whether the sanitary condi-

tions of farm kitchens come under veterinary inspection or under medical and sanitary officers, but we think the question forming the last sentence is irrelevant if not spiteful.

PROF. J. A. GILRUTH.

All veterinary surgeons in the United Kingdom will be more than interested to hear that Prof. Gilruth is leaving his tutorial chair at Melbourne University to take up the far wider and more important responsibilities of Administrator of the Northern Territory. To a certain extent there is something to be regretted in the appointment; for it means that a man who has done good work in our profession, and would have done much more had he remained in it, has probably ended his veterinary career. That career, including as it has done the foundation of the State Veterinary Service in New Zealand, has been so brilliant and fruitful that we should have been glad to have retained Gilruth within our own ranks. As that is impossible, we shall all join in giving him our congratulations and best wishes in his new sphere—and it may be added that he has already shown himself possessed of qualities which should ensure his success in it. His past record is that of an able and successful leader and administrator; we anticipate that his future one will be the same.

MENDELIAN EXPERIMENTS.

Mendelism, as applied to horse-breeding, is to form the subject of an investigation under Government auspices. The results may prove of the highest importance; but the task will certainly be a difficult one, and some time must elapse before it is possible to estimate the progress which is being made. At best, the application of Mendelian principles to animals is much more difficult and complex than in the case of plants—to which Mendel's own work was confined. Again, the great bulk of Mendelian work upon animals has hitherto been limited to the small and quickly breeding species. So far as the larger animals are concerned, such study of Mendelism as relates to them has been much more in the direction of examining existing breeding records than of deliberate and direct experiment. Mendelism, as a whole, is still in its infancy; as regards horses and cattle it is all but untrodden ground, with the added fact that the length of gestation in these animals must render progress comparatively slow. Still, the ultimate possibilities of Mendelism are so great—even with regard to the horse alone—that the importance of the experiments can hardly be overestimated. In any case, they cannot be without scientific value. They may, in addition, prove of inestimable material value, by initiating a new era of exact and prescient horse-breeding.

OESOPHAGOTOMY IN A DOG.

By H. C. GANGULI, Junr.,

Hospital Surgeon, Bengal Vet. Coll., Calcutta.

About the middle of January of last year a red-and-white terrier dog belonging to a lady was brought into this College Hospital for treatment.

History.—The owner reported that two days prior to its admission it stopped eating suddenly in the course of its usual evening meal (rice and meat) without any appreciable cause, and afterwards continued restless, making frequent attempts to vomit, as though something had stuck in the throat. Next day a swelling in the region of the throat was noticed, the animal did not attempt to take anything and was very restless. It was then taken by the owner to a medical practitioner. Suspecting that it was choked, the practitioner applied a little Tincture of Iodine on the swollen area.

Symptoms.—On admission the animal was extremely dull, and howled, especially when trying to swallow. On examination of the throat it was found to be inflamed, swollen and the surrounding tissues infiltrated with an oedematous exudation, but no obstruction could be felt, nevertheless it was decided to operate and find out the cause of the swelling, as obstruction of the oesophagus was still suspected.

Modus Operandi.—The animal was secured on the operation table in the latericumbent position, the hair of the part was clipped and well asepticated with alcohol. Under A.C.E. mixture a clean incision of about an inch-and-a-half long was made in the skin of the superior third of the neck, which exposed the jugular vein and the carotid artery. Retracting them and detaching the oesophageal fascia the gullet was exposed, while another incision of an inch long made in its muscular and mucous coats laid open the oesophagus. Instead of finding any ingested matter, a corroded suture needle of about two inches in length, with a thread of about a foot and a half attached, was found lying in the lumen, and the point was commencing to pierce its way through the coats. After the object was removed with a pair of fine forceps, the mucous coat was first sutured with fine silk, the lips being inverted, the muscular coat with catgut and the skin with silk. The sutures were painted with collodion and boracic powder, and the part protected by bandages. After recovering from the anæsthetic the animal seemed much relieved, and a dose of $\mathfrak{z}\text{ij}$. of Vinum gallici with aqua $\mathfrak{z}\text{ij}$. was administered to overcome weakness and exhaustion. The diet was confined to milk and beef-tea.

Next day there was neither rise of temperature nor discharge from the wound. The part was simply bathed with boric lotion, a little boracic powder was dusted over, and bandaged.

On the following day all the skin sutures were removed, leaving a thin line of demarcation between the lips, the part was thoroughly cleansed with 1:1000 of Cyllin solution, and was afterwards dusted over with a little boric acid; the animal

seemed much brighter and regaining his normal health.

On the third day the animal was notified as ready to leave, but was not removed by the owner until a few days later, when it had apparently quite recovered.

THE TRANSMISSION OF GALL-SICKNESS BY TICKS.

By Dr. A. THEILER, C.M.G.,

Acting Director of Veterinary Research.

In this paper I understand under gall-sickness the disease of cattle caused by parasites of the red corpuscles, which I called "anaplasmas," in analogy to the cause of redwater, known as "piroplasms."

In a previous article* I called it gall-sickness of imported cattle, because in our experience imported cattle suffer from it most frequently, and such cattle, when inoculated against this disease and redwater can be turned out to graze without the risk of contracting more diseases than the native Africander cattle would do, thus indicating that these two diseases are the main sources of losses under ordinary conditions. It is almost superfluous to repeat that Africander cattle are also found to suffer from this disease, but attention must be drawn to the fact that not all the diseases called "gall-sickness" are identical with the one under discussion.

The name "anaplasma" is meant to indicate more than a simple analogy to "piroplasma," it should also indicate that these two parasites are somewhat related, although they are a distinct species. This closer relationship exists in the fact that animals which have recovered from an attack of anaplasmosis (gall-sickness) remain permanently infected, and act as reservoirs just as a "redwater immune animal" does with *Piroplasma bigeminum*. Since such close relationship exists between the two, coupled with the fact that the latter is transmitted by the progeny of the blue ticks (i.e. larvae originating from mothers feeding on immune or sick animals) it had rightly to be expected that the anaplasmosis would also be transmitted by ticks, and it remained to demonstrate this surmise by actual experiments.

The first investigations of Kilborne and Smith in connection with Texas fever (which disease embraces both redwater and gall-sickness) showed clearly that the latter disease (which was usually complicated with the former one) was transmitted by ticks; according to our present knowledge we must conclude that the same batch of the same species of ticks at one and the same time is capable of transmitting the two diseases, the redwater with its shorter incubation time appearing first, and the gall-sickness following at a later date.

The subsequent experiments will show that also in South Africa the same thing happens with our blue tick (*Rhipicephalus boophilus*), and that with this and another species of ticks, the black-pitted tick (*R. simus*), pure infections with anaplasmosis are possible.

I.

EXPERIMENTS TO CONVEY REDWATER AND GALL-SICKNESS INTO A SUSCEPTIBLE ENGLISH HEIFER BY MEANS OF BLUE TICK LARVÆ COLLECTED FROM CATTLE IMMUNE TO REDWATER AND GALL-SICKNESS.

Origin of Ticks.—The mother ticks were collected off Africander cattle running on the pasture adjoining the Laboratory, which animals have to be considered to be immune both to redwater and gall-sickness.

* *Union Agricultural Journal*, January, 1912: "Gall-Sickness of Imported Cattle and the Protective Inoculation against this Disease."

Heifer 787.—An imported Sussex heifer had been kept stabled and tick-free since the date of her arrival (February 20th, 1909). On May 15th, 1909, this animal was infested with a limited number of blue larvæ, the progeny of the above-mentioned adult ticks. Only about 100 larval ticks were placed on the heifer, in order to prevent a gross infestation and a resulting severe attack of redwater.

The larvæ underwent their usual course of development. On the 11th and 12th days after tick infestation the morning temperature stood at 104° F. and 105° F. respectively, but no parasites were found. The redwater parasites were only found on the 26th day and again on the 48th day.

The parasites of gall-sickness (*Anaplasma marginale*) appeared on the 75th day, infecting on this date 4.5 per cent. of the red corpuscles. They increased daily in number, and amounted on the 86th day to 15.4 per cent. A regular fever reaction ensued from the 85th day onwards, lasting to about the 100th day, during which time the lesions of anaemia became very pronounced. The animal finally recovered.

NOTE.—In this animal we have in the first instance an infection of redwater which was only a slight one; it was succeeded by an infection of gall-sickness (*Anaplasmosis*), having a long incubation period (75 days).

II.

EXPERIMENTS TO CONVEY GALL-SICKNESS INTO ENGLISH HEIFERS IMMUNE TO REDWATER BY MEANS OF TICKS COLLECTED FROM A HEIFER IMMUNE TO REDWATER AND GALL-SICKNESS.

(2) **Heifer 922.**—The following is the history of this animal in England:—

Heifer 922.—On 16th October, 1909, this heifer received subcutaneously 10 c.c. of blood from calf 211. The temperature in the morning and evening varied only within physiological limits until the morning of 21st October, when it rose to 105° F. Blood smears taken at this time showed no parasites.

The animal immediately received subcutaneously 1 gramme of trypan blue dissolved in 150 c.c. of water. On the evening of the 21st October the temperature was still 105° F. and the blood smears were negative. On the morning of the 22nd October the temperature had fallen to 102.6° F. In the evening of the same day it was 102° F., and from this time onwards until the 5th November it varied only between 101.2° F. and 102.2° F. Blood smears were examined daily, but no piroplasms could be found until the 28th October, that is to say, twelve days after inoculation and seven days after the rise of temperature. On the morning of the 28th October a very few red-water parasites were present in the blood smears; temperature, 102° F.

No piroplasms were present in the blood smears taken on the 2nd November. A few were found in blood withdrawn on the morning of the 3rd November. They could not be found in the smears of blood withdrawn in the evening of the same day. From that time up to the 5th November the examination of this heifer's blood gave negative results.

NOTE.—Heifer 922 was subsequently exported to South Africa, and arrived at the Laboratory on the 13th December 1909. She was immediately placed in a tick-free stable and temperatured twice daily.

No abnormal records were noted during this observation period.

Treatment.—On the 1st March, 1910 (seventy-seven days after arrival, heifer 922 was infested with a considerable number of blue tick larvæ, the mothers of which had been collected off cattle in Natal; the eggs from which the larvæ emerged were laid at the Laboratory

Remarks.—After an incubation time of ten days, a slight reaction occurred lasting for four days, with a maximum evening record of 104° F. Redwater parasites were noted on one occasion only, and then only in exceedingly rare numbers. Some irregular records were noted subsequently, but all blood examinations proved negative.

On the 55th day a reaction started, lasting for 18 days, with high temperatures in the early part of the reaction (105° F. and over), and averaging between 103°–104° F. during the rest of the time. On the 55th day microscopical examination of the blood showed a very few gall-sickness parasites; they were still rare the following day. Two days later their number had reached 8 to 9 per cent. The following day a remission was noted to 2.4 per cent.; they were still rare on the 60th day.

On the 61st day they had increased to 18.8 per cent. and they decreased to 16.3 per cent. the following day. Their number now dwindled down again rapidly, and a corresponding remission in the temperature occurred.

The anaplasms had the character of the variety *centrale*, and the anaemic lesions in the blood were in no way marked; the anaemia was characterized by a slight basophilia, which remained for seven days.

Tests.—Heifer 922 was tested subsequently on two occasions with blood of animals which had recovered from gall-sickness, namely, on the 20th May, 1910, when it was injected with 10 c.c. blood of heifer 928 (an animal immune against red-water and anaplasmosis, variety *centrale*) without any results, and again on the 28th June, 1910, no reaction followed the injection of 10 c.c. blood of heifer 934 (an animal immune to anaplasmosis, variety *marginale*).

NOTE.—The infestation of ticks produced a slight temperature reaction during which a very few redwater parasites were seen. After an incubation period of fifty-five days, a distinct reaction started with anaplasms in rare numbers.

(3) **Sussex Heifer 925.**—The following is the history of this animal in England.

On the 16th October, 1909, heifer 925 received subcutaneously 10 c.c. of blood from calf 211. The temperature varied only within physiological limits until the evening of the 21st October when it rose to 103.8° F. Smears, however, were negative. From the 22nd October to the 1st November the redwater parasites were seen in the blood daily.

NOTE.—Heifer 925 arrived at the Laboratory on the 13th December, 1909; she was immediately placed in a tick-free stable and temperatured twice daily.

Treatment.—On the 1st March, 1910—seventy-seven days after arrival—this heifer was infected with blue larval ticks belonging to the same batch as used on heifer 922 (*vide* previous animal); a fairly heavy infestation was made in this instance.

Remarks.—There was a temperature reaction from the 9th day immediately succeeded by a second reaction, but of an irregular character, lasting up to the 30th day. A few redwater parasites were noted on the 12th day only.

A high reaction set in from the 45th day, with evening temperatures reaching 105.8° F., and followed by irregular records. The blood was frequently examined during this period, but, with the exception of a slight anaemia, it was found quite normal.

It was not until the 114th day that another reaction occurred, when a few anaplasms of the type *centrale* were found.

Test.—Heifer 925 was tested on the 8th August with blood of heifer 934, an animal immune to redwater and gall-sickness.

A reaction followed, lasting from the 20th until the 40th day, with exacerbations over 105° F., and during which time anaplasms, variety *marginale*, were found in

large numbers for a few days; they then slowly disappeared, corresponding with the fall of the temperature; the symptoms of anæmia were never strongly pronounced the animal recovering quickly.

The animal was sent to Potchefstroom on the 5th November, 1910, and was still alive on the 31st December, 1911.

NOTE.—In this instance the infestation of ticks produced a reaction during which redwater parasites were noted on one occasion. The irregular reaction was, however, not typical of a redwater infection.

It is possible that the heavy infestation of ticks caused a re-infection with *Piroplasma bigeminum*, from which the animal easily recovered.

In this particular instance the first gall-sickness infection was very slight, and would have passed unnoticed if the examination of the blood had not been continued over a long period. Gall-sickness parasites were found in rare numbers and after a long incubation time of over 100 days. The subsequent injection of blood of heifer 934 (which contained *Anaplasma marginale*) produced a fever reaction accompanied with a large number of parasites.

III.

EXPERIMENTS TO CONVEY ANAPLASMOSIS TO CLEAN SUSCEPTIBLE HEIFERS BY MEANS OF BLUE TICKS ORIGINATING FROM A PURE CASE OF ANAPLASMOSIS.

Origin of the Pure Strain of Anaplasmosis.

Heifer 934.—This animal had been used previously, when as a result of the injection of blood 917 it developed the disease due to *Anaplasma marginale*. Later, as the result of a second injection with blood of heifer 926, heifer 934 developed an attack of redwater, it having been clearly shown that gall-sickness was not complicated by redwater.

Accordingly I expected that by infesting this animal, previous to the appearance of redwater parasites, with blue ticks which were free of any infection, they would only become infected with gall-sickness and would then transmit this disease alone.

On the 27th May, 1911, heifer 934 was infested with blue tick larvæ collected from heifer 931 (heifer 931 was an English beast which had been infested on the 23rd February, 1910, with blue tick larvæ collected from horses; no disease developed in 931 as a result of this infestation, proving that these blue larval ticks were clean).

The infestation of heifer 934 was a fairly heavy one; the engorged females dropped between the 21st and 29th days, and were collected in great numbers.

(4) *African Calf 1168.*—Born in the Laboratory stables on the 7th November, 1910, and kept tick-free.

Treatment.—Infested on the 12th Nov., 1910, with the progeny of the blue ticks which had developed on heifer 934, and whose mothers had dropped from the 17th to 24th June, 1910.

Remarks.—Nothing unusual occurred after this infestation. The engorged ticks commenced to drop on the 24th day; the blood was occasionally examined during this time but with negative results.

On the 52nd day a temperature reaction started, continuing for eighteen days. Although this reaction was well marked, with evening records of occasionally 104° F. it could not be called severe.

Gall-sickness parasites appeared with the rise of temperature, being present in the greatest numbers at the onset of the fever, i.e., infesting 3.3 per cent. on the first day, 7.8 per cent. the second day, 4.7 per cent. the fourth day, 3.1 per cent. the fifth day, 2.2 per cent. the sixth day, 1.9 per cent. the seventh day, 1.2 per cent. the eighth day, and remaining at about 1 per cent. throughout the remainder of the reaction.

NOTE.—As was expected in this case, a pure in-

fection of gall-sickness was transmitted by means of the ticks.

In order to prove that calf 1168 was a pure infection, unaccompanied by anything else, the calf was tapped and 5 c.c. of fresh blood was injected into English heifer 1217.

Test of blood of Calf 1168.

Heifer 1217 arrived at the Laboratory from England on the 9th January, 1911, and was immediately placed in a tick-free stable. The temperature remained within physiological limits during the time of observation.

Treatment.—Injected on the 25th January, 1911, (sixteen days after arrival) with 5 c.c. blood of calf 1168.

Remarks.—A temperature reaction set in from the 22nd day, with evening exacerbations to 105° F. on the 25th and 26th days, and returning to normal on the 31st day; gall-sickness parasites were noted on the 22nd day, increasing in numbers during the succeeding days.

On the 26th and 27th days the lesions of anæmia were noticed. From the 27th until the 44th day anaplasmas were found in rare numbers.

Test for Redwater Immunity.

Injected on the 24th April, 1911, with 5 c.c. blood of heifer 1216, an imported heifer belonging to the same batch as 1217, and which developed a pure attack of redwater as the result of the injection of blood of heifer 926 on the 23rd January, 1911.

Remarks.—There was a sharp rise on the 6th day, reaching 104° F. on the 8th day; redwater parasites were noted in fair numbers on the 7th day. The animal was injected with a 1 per cent. solution of trypan blue on the 8th day, and the temperature dropped to normal the following morning.

Conclusions.—The subsequent inoculation experiments prove that the ticks transmitted a pure infection of *Anaplasma marginale* into calf 1168.

(5) *Sussex heifer 1218.*—An English heifer which arrived at the Laboratory on the 9th January, 1911: she was immediately placed in a tick-free stable and temperatured twice daily. No deviations from a normal record were noted.

Treatment.—Infested on the 25th January, 1911 (sixteen days after arrival), with blue larval ticks from heifer 934.

Remarks.—The adult females were collected from the 21st to 28th day in great numbers; there was one sharp rise of temperature to 103.8° F. on the 22nd day, but blood examinations proved negative. Seventy days after infestation a slight but definite reaction, lasting about fifteen days, ensued. Gall-sickness parasites were noted in the blood for the first time on the 70th day and remained present throughout the reaction.

Test for Redwater Immunity.

On the 24th April, 1911 (eighty-nine days after the tick infestation) heifer 1218 was injected with 5 c.c. blood of heifer 1216 (immune to redwater, *vide* previous test).

Remarks.—A temperature reaction set in from the 8th day, and on the following three days microscopical examination of the blood showed the presence of redwater parasites. The animal was injected with trypan blue on the latter date, when the temperature returned to normal and the blood regained its healthy appearance.

Tests of blood of Heifer 1218.

NOTE.—In order to prove that heifer 1218 was a pure infection of gall-sickness, it was tapped on the 24th April, 1911, and 10 c.c. fresh blood were injected into English heifer 1224.

Heifer 1224 arrived at the Laboratory from England on the 9th January, 1911, and was immediately placed in a tick-free stable. No abnormal temperatures were noted during this observation time.

Treatment.—Injected on the 24th April (105 days after arrival) subcutaneously with 10 c.c. blood of heifer 1218.

Remarks.—On the 18th and following days gall-sickness parasites were detected in the blood, coinciding with the fever reaction which lasted from the 16th to 35th days.

Conclusions.—This case also proves that the ticks transmitted a pure infection of anaplasmosis into heifer 1218.

IV.

EXPERIMENT TO CONVEY ANAPLASMOSIS BY MEANS OF THE BLACK-PITTED TICK.

(6). *Sussex Heifer 930.*—This heifer belonged to the same batch as 922 and 925, but had not been treated in England. She arrived at the Laboratory on the 13th December, 1909, and was immediately placed in a tick-free stable. The temperature was taken twice daily, and no abnormal records were noted.

Treatment.—Infected on the 30th March, 1910 (107 days after arrival), with black pitted larvae, the mothers of which were collected in Natal.

NOTE.—Black-pitted larvae do not readily become attached on cattle, but nevertheless a small number were found hanging to the ears the following day.

Remarks.—Nothing unusual occurred in the temperature until about the 75th day, when a gradual rise was noted, developing into a typical curve, and lasting until the 100th day; the fever was at its height between the 83rd and 92nd days, with evening records reaching 105° F. Gall-sickness parasites appeared with the rise of temperature, increasing and decreasing in numbers corresponding with the course of the fever; counting was not undertaken in this instance.

The symptoms of anaemia appeared on the 86th day. Nothing further happened with this animal, and in order to prove that it was a pure infection of gall-sickness, it was tapped on the 23rd January, 1911, and 50 c.c. fresh blood was injected into heifer 1213.

Test of Blood of Heifer 930.

Sussex heifer 1213.—An English heifer which arrived at the Laboratory on the 9th January, 1911, and was kept in a tick-free stable.

Treatment.—Injected as above (fourteen days after arrival).

Remarks.—A severe temperature reaction commenced on the 16th day, with evening rises to over 105° F., and lasting until the 30th day.

During this period gall-sickness parasites appeared in great numbers, and all the symptoms of anaemia developed. The heifer showed visible symptoms of illness, with pale mucous membranes, refused to feed, frequently lay down, showed hurried respirations, and lost condition.

She was treated, and eventually recovered.

Conclusion.—The black-pitted ticks transmitted a pure infection of anaplasmosis to heifer 930, as proved by the injection of a large quantity of its blood into heifer 1213.

Summary of Conclusions.

Five English heifers and one stable-born Africander calf were used for the experiments; they were all susceptible to gall-sickness (anaplasmosis), two were immune to redwater, having been inoculated against this disease in England.

In all six instances gall-sickness was transmitted. In the first instance both diseases (redwater and gall-sickness) were transmitted to the susceptible heifer by ticks

infested with both diseases; in the second instance the ticks transmitted gall-sickness to heifers immune to redwater, and in the third instance ticks were used which originated in the first place from horses, and thereby were freed from any infection of redwater and gall-sickness; these ticks were infected with a pure infection of anaplasmosis, and this pure infection was transmitted to susceptible heifers; the blood of these latter heifers was tested by inoculation, and found to really represent a pure anaplasmosis or gall-sickness infection.

Attention must be drawn to the long incubation time of gall-sickness after tick infection, contrary to a relatively short incubation time after inoculation of the same parasite, of which fact full advantage was taken for inoculation purposes, as indicated in my last article.

This paper should form another illustration of the importance of ticks as a carrier of disease, a disease which attacks practically all cattle born and bred in South Africa, and is responsible for the death of a great number of imported animals. Although I have been able in my previous article to show that it is possible to inoculate against this disease, and thus convey a great amount of immunity, so that such inoculation may be made use of for practical purposes, yet I do not consider that such inoculation is the solution of the problem under discussion. The destruction of the ticks will get at the root of this evil, and the foregoing notes may be considered as a further support of our recommendation for the destruction of all tick life.

MIDLAND COUNTIES' VETERINARY MEDICAL ASSOCIATION.

The annual meeting was held at Birmingham, on Friday, Feb. 23rd, the President, Mr. H. L. Pemberton, of Bridgnorth, occupying the chair. There were also present: Messrs. W. S. Carless, F. L. Gooch, J. A. Gold, W. Ison, F. J. Taylor, L. C. Tipper, R. Cockburn, R. Hughes, W. H. Brooke, F. W. Barling, T. Slipper, J. Malcolm, R. C. Trigger, P. Murray, A. B. Forsyth, J. Martin, B. Devine, Burndred, J. Young, Thompson, J. J. Burchnall, G. Smith, and the Hon. Sec., Mr. H. J. Dawes.

The visitors present were Dr. O. Charnock Bradley, Edinburgh; and Mr. Brittlebank, Manchester.

Apologies for unavoidable absence were announced from Sir John M'Fadyean; Professors Mettam, McCall, Macqueen, Dewar, Penberthy, and Hobday; Dr. Manley and Dr. Gilbert Barling; Messrs. W. Woods, T. H. Hobson, R. L. Forrest, A. Over, W. T. Brookes, H. B. Hiles, W. Hunting, F. H. Gibbings, J. R. Carless, S. J. Marriott, A. W. Mason, W. G. Bowes, A. McCarmick, W. H. Brown, E. Ringer, W. S. Mulvey, T. Chambers, T. J. Brain, A. S. Reynolds, W. W. Grashy, C. E. Dayus, E. O'Neill, C. J. Byner, F. B. Gresham, J. Clarkson, J. Blakeway, J. W. Coe, L. W. Heelis, G. Wartnaby, F. V. Steward, and others.

MEETING OF THE COUNCIL.

Previous to the general meeting, a meeting was held of the Council. Mr. Pemberton presided, and the others present were: Messrs. Carless, Martin, Gold, Gooch, Burchnall, Trigger, Brooke, Malcolm, and the Hon. Sec. They drew up the following report for presentation to the general meeting:—

"The Hon. Sec. reported that he had written to members in arrears with their subscription, as ordered at the last quarterly meeting. The result was partly satisfactory. It was resolved that the names of members

who had made no response to this final appeal be read out publicly and struck off the membership roll of the Association. It was further resolved to take steps to recover the arrears. It was also agreed that members in arrear be not allowed in future the use of the Association's instruments.

A letter on the subject of the National Veterinary Association was referred to the general meeting.

It was resolved that the undivided support of the members of the Association be invited on behalf of the candidature of Mr. R. C. Trigger, who is seeking re-election as a member of the Council of the Royal College of Veterinary Surgeons.

Recommendations for the election of officers were considered. In consequence of the indisposition of Mr. H. Thackeray, who is the senior Vice-president, it was recommended that Mr. W. H. Brooke, the junior Vice-president, be elected President, and that a letter be sent to Mr. Thackeray expressing the hope that he may be restored to health and allow himself to be nominated for the chair next year. Other recommendations for office were: Vice-presidents—Messrs. H. Thackeray and J. Martin; Treasurer—Mr. J. J. Burchnall; Hon. Sec.—Mr. H. J. Dawes; Auditors—Messrs. W. S. Carless and R. C. Trigger.

It was resolved that the two senior members of the Council retire each year, and not to be immediately eligible for re-election. Messrs. Malcolm and Trigger would accordingly stand down this time, and it was recommended that Messrs. Ison and Devine be elected.

Mr. Brennan Devine has kindly consented to read a paper on "John's Disease" at the next meeting.

It was resolved that the next quarterly meeting be held at Stafford.

The minutes of the last general meeting were confirmed.

NEW MEMBERS.

Mr. RALPH L. C. FORREST, of Alcester, on the motion of Mr. Gold, seconded by Mr. Taylor; and Mr. G. THORNTON, of Leicester, by the Hon. Sec. (on behalf of Mr. T. H. Hobson), seconded by Mr. Cockburn, were elected members.

Mr. W. G. THOMPSON, of Stafford, was nominated by Mr. Murray for membership. His name will be submitted to the next quarterly meeting.

DEFAULTING MEMBERS.

Arising out of the report of the Council, the Hon. Sec. was ordered to read the names of those members who were several years in arrear with their subscriptions, and who had made no response to a final appeal for payment.

The PRESIDENT said it was his unpleasant duty to move that those gentlemen be struck off the membership roll. This was seconded by Mr. Burchnall and carried.

THE NEW NATIONAL COUNCIL.

The HON. SEC. read a letter from the National Veterinary Association, to which this Association has become affiliated, requesting the appointment of representatives to serve on the Council. Each affiliated Society was entitled to be represented by its Secretary and one representative for every 25 members, so that this Association was entitled to elect five representatives in addition to the Secretary.

On the motion of Mr. Tipper, seconded by Mr. Gooch, the Midland representatives were elected as follows:—Messrs. Malcolm, Brooke, Gold, Hughes, and W. S. Carless, together with the Hon. Sec.

MR. TRIGGER'S CANDIDATURE.

The PRESIDENT moved that Mr. Trigger be again nominated as the representative of this Association on the Council of the Royal College of Veterinary Surgeons.

Mr. Trigger had represented them well and faithfully for a good many years, and he was a man in whom the entire profession had the utmost confidence.

The HON. SEC. said he could personally testify to the valuable work which Mr. Trigger had done, and he had therefore the greatest pleasure in seconding the motion. It was the custom of this Association at one time to unite with other Associations for election purposes, but it was a practice with which Mr. Trigger did not agree, because he thought it put the Association to unnecessary expense.

Mr. Gooch having supported the motion in enthusiastic terms, it was carried unanimously.

Mr. TRIGGER, in acknowledgment, said that this May he would have completed 21 years service as a member of the Council, and under ordinary circumstances he should have asked them to relieve him of the office and give a younger man a chance, but he did not want to retire until the Bill which the Council had in hand was passed, and he was prepared to devote a little more time to fighting in that cause. It was more essential now than ever it was that something should be done to put the Royal College on a better footing financially. They had been obliged to sell more Consols to pay their way, and they continued to have a diminishing income. The inroads which the motor car was making upon private practice was not likely to improve the situation. He regarded it as a very high compliment that he should be the nominee of an influential Association like the Midland, but he did not want them to spend any money on his candidature. He thought the recommendation of the Midland Association, together with his own length of service, would secure his re-election, and except when there was any burning question before the profession he failed to see the wisdom of amalgamating with other societies for election purposes.

VOTES OF CONDOLENCE.

The HON. SEC. reported that since the last meeting of the Association, they had sustained a great loss by the death of Mr. Butler, of Evesham. He was a man whom everyone respected and looked up to. Their friend Mr. W. S. Carless had also suffered a great bereavement in the death of his son, and he moved that they express to the two families their heartfelt sympathy in their sorrow.

Mr. GOLD seconded. He said he once managed Mr. Butler's practice, and he had ample opportunities of recognising his many good qualities.

The vote of condolence was adopted *sub silentio*, and in Mr. Carless's case, he briefly but feelingly acknowledged it.

TREASURER'S REPORT.

The HON. SEC., Mr. J. J. Burchnall, presented his accounts, which had been duly audited. The total receipts during the past year amounted to £217 14s. 9d. the items being: balance from previous year £163 8d. 3d., members' subscriptions £51; and bank interest £3 6s. 6d. On the expenditure side, the chief items were: annual subscription to the Veterinary Benevolent Fund £5 5s.; and Hon. Secretary's outgoings £26 12s. 10d.; the balance to carry forward standing at £178 3d. 2d.

Mr. BURCHNALL said the balance in hand had increased more than usual during the year, but that was because the expenses had fallen off.

On the motion of Mr. Tipper, seconded by Mr. Gold, the accounts were passed, the meeting expressing the opinion that the finances of the Association were in a very satisfactory condition.

ELECTION OF OFFICERS.

Mr. TRIGGER claimed the privilege, as the oldest member present, to nominate a gentleman for the position of President, and one who, he promised, would do

credit to the Association. He referred to Mr. Brooke. In the ordinary course, their friend Mr. Thackeray, as the senior Vice-president, would have been nominated, but his health at the present time was not as good as it might be, and it was felt by those who knew Mr. Thackeray best that it would be doing him a kindness to defer his appointment to the chair for another year, by which time they sincerely hoped he would be well and strong again. However, it was a matter of satisfaction to them to know that failing Mr. Thackeray they had such a suitable candidate for the office as Mr. Brooke, who was well known to all of them, who was one of the most regular attenders at the meetings of the Association, and who would be able to command the respect and confidence of the whole of the members. (Applause).

The Hon. Sec. said he should like to second the resolution. He had known Mr. Brooke longer, perhaps, than anyone else in the room, for they were near neighbours, and a more honourable opponent in business it would be impossible to find. [That motion was heartily carried].

Mr. BROOKE said he was deeply sensible of the honour the Association had conferred upon him, and he would do his best to maintain the prestige of the office, but as he was single-handed in business he might have to fall back on the assistance of other officers, though he was sure he would not be likely to make an appeal in that direction in vain.

Vice-Presidents: Messrs. Thackeray and J. Martin were appointed, on the motion of Mr. Gold, seconded by Mr. Taylor.

Hon. Treasurer: Mr. J. J. Burchnall was re-elected.

Auditors: Messrs. W. S. Careless and R. C. Trigger were elected.

Hon. Sec.: Mr. BROOKE said that as the President-elect, he would like to have the opportunity of proposing that Mr. H. J. Dawes be re-elected. He knew he would have to rely upon that gentleman for guidance during his year of office and it was an agreeable reflection that the affairs of the Association were in such capable hands. The motion was seconded by Mr. Martin and carried.

Mr. DAWES in accepting the office again, said it would be 21 years that he had acted as Hon. Sec. and he had enjoyed the work, but whether there would be as much to do now that they were affiliated within the National Association remained to be seen.

The recommendation of the Council that two of their number should retire each year without being eligible for immediate re-election was agreed to.

Messrs. Ison and Devine were accordingly appointed under the new rule, to succeed Messrs. Malcolm and Trigger.

Other recommendation of the Council, as to the subject for discussion at the next meeting, and where it shall be held were also endorsed.

SALES FOR AGRICULTURAL PURPOSES BILL.

Mr. L. C. TIPPER drew attention to certain clauses in this Bill, which he suggested would prejudicially affect the veterinary surgeon. He said that although it was a matter of importance to the profession, probably few members of the Association were aware that it was in contemplation.

Mr. TRIGGER said he had read the clauses to which Mr. Tipper took exception, and so far as he could see they would not affect the ordinary practitioner in the least. It was food, and not medicine such as a duly qualified veterinary surgeon would prescribe, that was intended. The vendor of food for cattle would have to disclose the nature of, and although the expression "food" in the Bill was meant to include "any condiment or substance used to admix with ordinary feeding stuffs," it could surely not mean medicine or anything

intended as medicine for an animal that was sick. So far as he (Mr. Trigger) could see it was a proper Bill to go through. Still it might be well to safeguard their position and try to get an addendum to the Bill specifying that medicines prescribed by a duly qualified veterinary surgeon were not included. He thought that was as far as they could go.

Mr. TIPPER: We might ask that any veterinary surgeon should be exempt from its provisions.

Mr. TRIGGER: No, I don't think so. The moment a veterinary surgeon begins selling food stuffs to anyone who will buy them he becomes a tradesman, and he ought not to be exempted from a food Bill any more than any other tradesman. (Hear, hear).

Mr. GOLD said he supported the remarks of Mr. Trigger. As far as he could see, this Bill was not intended to apply to the *bona fide* veterinary practitioner, who prescribed a particular food for an animal in special circumstances. It was meant to apply to the man who sold cattle foods at random, and who was in that way a tradesman pure and simple. It might be a good thing, however, if they asked Mr. Trigger to bring the matter before the Council so that these clauses might be watched during the progress of the measure through the House of Commons. By that means they might be sure that the position of the genuine veterinary practitioner would be safeguarded. (Hear, hear).

Mr. TRIGGER said it would not be necessary for him to mention the matter to the Council, for their solicitor let nothing of that kind escape his notice and they might be sure he had already had this Bill under observation. He had never found their solicitor asleep yet.

Mr. FORSYTH said if a man advertised food stuffs for sale it was quite right that the public should know what they were buying, but he could not conceive that the ordinary practitioner who prescribed this or that diet in a particular case that he was attending would be brought within the provisions of the Bill. (Applause).

On the motion of Mr. Gooch, seconded by Mr. Martin, it was resolved to leave the question to the Council of Royal College of Veterinary Surgeons, who would be alive to anything that affected the profession in the way suggested.

HEREDITY.

Dr. O. CHARNOCK BRADLEY, Principal of the Royal (Dick) Veterinary College, Edinburgh, delivered an address on the subject of heredity. He said that when he was asked to speak at this meeting on the subject he hesitated for two reasons. In the first place it appeared to him that so specific and complex a subject as that of heredity should be dealt with by someone who had given it that special study which it deserved. Secondly, the subject was such an enormous one that it seemed impossible to deal with it in any degree adequately in a single address.

Two problems alone were sufficient to illustrate the importance of heredity to the veterinary surgeon. What was the relationship of heredity to disease? and how far might acquired characters be transmitted?

Before attempting to make answer to the first question, it was necessary to decide exactly what was meant by "disease." The term was extremely difficult of definition, for the same process might be ranked as a disease under certain circumstances, while under different conditions it would be regarded as normal.

The transmissibility of acquired characters was a matter upon which there had been, and there still was a considerable divergence of opinion. Until it had been definitely decided that the germ-cells were absolutely uninfluenced by the body which acts as their host—and all scientists were not by any means in agreement upon that point—it was dangerous to dogmatise upon the transmissibility or otherwise of acquired characters.

One respect in which breeders and others were liable to fall into error was in the direction of forming conclusions from too scanty data. Laws could be most securely founded upon the collation and analysis of extensive statistics. Masses rather than individuals were of value in the formulation of laws. There could be little question that breeders and others attached undue and dangerous importance to individual cases.

It was because of a lack of sufficient and reliable statistics that genetics could speak with so little assurance regarding many points of heredity as it affected domestic animals. Farm-stock, moreover, offered difficulties inasmuch as there were so few sharply defined characters, and such a diverse mixture of latent strains. Because genetics hesitated in answering many problems related to farm-stock, the science need not be condemned as useless. Genetics was young and had a great future.

One matter of enormous importance upon which much work had been done, and much remained to be done, was that of deciding in how far the capacity for "performance" was heritable. In Denmark, in particular, it was held that cows capable of giving a large milk-yield could transmit this capacity to their offspring. On the other hand, certain recent observations conducted by Raymond Pearl on the egg-laying capacity of hens, did not point so certainly to the transmissibility of capacity for performance.

Inheritance might manifest itself in three, or possibly four, main ways. In the first place there was the mode of "blended inheritance," by which the characters of both parents were so transmitted that the offspring presented characters almost or quite equally compounded of those of the two parents. Blended inheritance was not necessarily stable; but it might be so, as instanced by certain cross-bred sheep which breed true.

The mode of "exclusive inheritance" resulted in the production of offspring which resembled one parent (absolutely prepotent) to the exclusion of the other. It did not follow, however, that the so-called excluded character was not present in the offspring. It might be merely dormant, and capable of re-appearance in the next generation.

"Particulate inheritance" was illustrated in the old English sheep-dog, where one eye might be paternal, the other maternal. Here both parental characters were present but had not mixed.

Regressive inheritance and filial regression were of prime importance to the breeder, for it had been shown that there was a constant tendency to return to the mean. Exceptional parents do not necessarily produce exceptional offspring, because of this innate inclination towards the mean.

From this point Dr. Bradley continued his address with the aid of lantern-slides, which illustrated the history of the germ-cells, their behaviour in development and their relation to heredity.

Mr. MALCOLM said that as it was at his suggestion that Dr. Bradley had come to address them on that most interesting topic, he considered the members present were under a debt of gratitude to him. He was much interested in what Dr. Bradley had said about the possibility of the inheritance of acquired character. It was a most important point. A veterinary surgeon examined horses, and it became very often a question whether the characters they saw were solely the result of heredity. A great many of their leading sociologists seemed to follow Weissmann, and others shared with Professor Bradley the view that it was possible for the influence of environment to be so reflected on the germ cells that characters acquired during the life time of the parents may be transmitted to the offspring. Professor Bradley also touched on the question of performance, referring especially to eggs and milk. He (Mr. Malcolm) was no authority on poultry, but he had paid a great deal of attention to the question of milk production, and he was

one of those who thoroughly believed that there was as much evidence of heredity in milk production as in anything else. The inheritance of milking qualities was a matter of practical value to the farmer, and he believed that if they got a cow of a very good milking strain, even if she was not one of the best milkers herself, she would follow into line and produce good milking stock. The truth of that had been proved by the Danes, who had paid a great deal of attention to the question in recent years, with the result that they were now taking the lead in the dairying world. By the process of careful selection, the Danes had made their milking cows equal, if not superior to any in the world, breeding only from those that came up to a certain standard. He was interested to observe that Dr. Bradley was not so wholehearted a believer in Weissmann as many Edinburgh people in the past had been. Dr. Bradley had told them that the subject was such an immense one that he had been obliged to leave many aspects of it untouched. He only hoped, therefore, that he would be able to find time to come among them again and complete his remarks, for they had all listened to the address that day with the deepest interest. (Applause).

Mr. GOOCH said he could go all the way with Mr. Malcolm with regard to heredity in cattle so far as their milking qualities were concerned. With regard to the four modes of heredity specified by Dr. Bradley, the breeding of pigs furnished them with good illustrations. It was a known fact that if they got a pure white gilt and mated it with a pure white boar the offspring was pure white, but if they mated it with a black boar they could never in future get anything but mixed colours. With regard to performance, he thought it had been very much emphasised in the report just issued in the Shire Horse Society's Stud Book, where they had the number of prize winners put down. If they took Lockinge Forest King, they would see that 98 of his progeny took prizes in the Show ring. Other noted sires with quite as good mares had not produced anything like that number of prize-winning foals, proving what Dr. Bradley had said—that exceptional parents did not necessarily produce exceptional progeny.

Mr. TRIGGER said he should like to add his meed of praise to what had already been said regarding Dr. Bradley's excellent paper. He agreed with those who held the view that the milking qualities in certain strains of cattle were re-producible. Amongst stock there were certain characteristics derived from the parent, and he remembered when he was a boy he could tell which were the offspring of certain dams among the sheep at home. He believed shepherds could tell the different sheep on pretty much the same lines. There was something about the appearance of animals which reminded one of their parents, and he himself had surprised clients before now by telling them what the sire was when he was not supposed to know. The knowledge of eugenics was very important, as it helped them to avoid breeding from unsuitable animals, and the study of it was one which was not only of practical value to the veterinary surgeon and the stock owner generally, but also of absorbing interest. He had very much enjoyed Dr. Bradley's address.

Mr. ISON moved a vote of thanks to Dr. Bradley for his kindness in preparing the lecture for the Association. He said he should like to hear him go still more fully into the subject on some future occasion.

Mr. HUGHES seconded and said Dr. Bradley was known throughout the profession as one of the most capable teachers they had. He went very carefully into everything he undertook, and he had communicated to them that afternoon much valuable information on a subject of the highest importance.

The vote of thanks was heartily carried, and briefly acknowledged by Dr. Bradley.

VOTE OF THANKS TO THE OFFICERS.

Mr. DEVINE said that before they separated they ought to make some acknowledgement of their indebtedness to the Officers of the Association for their services during the past year. Their affairs were in excellent hands, and under its present management the Association was doing much good work among practitioners in the Midlands. He moved that the Officers be accorded a vote of thanks.

This was seconded by Mr. Barling and carried, the President and the Hon. Sec. suitably returning thanks.

THE ANNUAL DINNER.

The meeting was followed by the Annual Dinner, over which Mr. Pemberton again presided. A short toast list was honoured, "The King" being first of all drunk.

Mr. BROOKE gave "The Imperial Forces."

Mr. DEVINE proposed "The Royal College of Veterinary Surgeons." He said they were well represented in Dr. Bradley and Mr. Trigger, who were both held in the very highest esteem in the profession.

Mr. TRIGGER said there was nothing new to tell them so far as the College was concerned. He thought the members knew the position, and in a financial sense it was far from satisfactory. They had £7,500 in Consols and they cost far more than they would realize if they were sold to day. He was really ashamed to be continually parading the poverty of the College before them, but he hoped they all realised that something would have to be done soon if they were to re-habilitate themselves, as the Council hoped they would.

Dr. BRADLEY said he had not been a member of the Council long enough to say much on that subject, but he was pleased to fall in with the President's suggestion that he should propose the next toast, namely, "The Midland Counties' Veterinary Medical Association." He had seen sufficient that day to satisfy him that this Association was in a most flourishing condition, and he believed that if it was conducted on the same lines as at present it would go forward to greater things.

The President and the Hon. Sec. responded in terms that were brief, and the other toast was the "The Visitors," proposed by Mr. Malcolm and responded to by Mr. Brittlebank.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

Mendelian Breeding of the Racehorse.

From a special article to the *Sporting Chronicle* by "Mankato" we take the following extract. The whole article is most interesting, and will be found in our contemporary's issue of March 23rd :-

"It is announced that Captain Dealtrey C. Part, of the 21st Lancers, has recently placed £10,000 at the disposal of that Department for the purpose of carrying out Mendelian experiments in light horse breeding. With the concurrence of the Board of Agriculture, Captain Part has entrusted Mr. C. C. Hurst, of Burbage, with the arrangement of the details, and it is understood that Mr. F. W. Carter, Superintending Inspector of the Board, will watch the proceedings on behalf of that body. Mr. Hurst, who is better known to horticulturists than to bloodstock breeders and racing men, it would appear, has, after consultation with Professor Cossar Ewart, come to the conclusion that to be in a position to breed light horses with economy, and suitable for military purposes, it will be necessary to form at least one pure breeding (homozygous) strain of thoroughbreds of hunter type, which shall possess speed, weight-carrying ability, and the jumping temperament, and (2) to form at least one pure breeding strain with the characteristics of the old Irish draught or of the old English pack horse. It would appear that, after the true breeding thoroughbred

and the true breeding pack horse have been obtained, the two species are to be crossed, and the expectation is that the resulting hybrids will be exactly the material required for military purposes; that is to say, the offspring will be uniform and intermediate for every character present in the respective pure-bred parents. Presumably these hybrids are not to be crossed *inter se*, or mated with either of the parent forms, lest, being themselves mongrels, they should break up or segregate in various ways, giving a diversity of offspring.

It will, therefore, be seen that the initial part of the scheme falls into two sections. The first, or thoroughbred portion, is generously financed by Captain Part, and, as already stated, is under the direction of Mr. C. C. Hurst. The Irish draught section has for some little time independently engaged the attention of the Department for Agriculture and Technical Instruction for Ireland; whilst the work of resuscitating the Devon pack horse, now on the point of extinction, has been undertaken by Colonel Stavely, of Holbeton, Plymouth, from whose monograph in the *Journal of the Royal Agricultural Society* it would seem that it is the intention to cross the few remaining Devon pack mares with Norfolk hackneys, and thus evolve a pure breeding animal of pack horse stamp. Taking the hackney at his value as assessed by our Irish friends, it is not easy to gather how any breed evolved with his assistance can be of use for crossing with the thoroughbred, even if the latter be of Mr. Hurst's proposed new brand. And here for the present we will leave the weightier end of the scheme for breeding army horses, and give a little consideration to the portion relating to the thoroughbred.

TRUE-BREEDING SIRE.

I should first explain that at the meeting of the British Association held at Portsmouth in August Mr. Hurst announced that he had discovered three stallions and four mares which when bred together had given nothing but horses of the 'chaser type, as tested on the racecourse and at the stud. In view of this find he advised the Board of Agriculture to purchase some of the offspring of these animals, with the idea of multiplying the supposed pure 'chaser line. He hoped that in this way he would solve the problem of manufacturing a pure-breeding race of thoroughbred hunters to take the place of the present Premium stallions, which, in his view and Professor Cossar Ewart's, are little more than mongrels, and for this reason unsuitable for siring half-bred stock.

It subsequently transpired that the homozygous or true-breeding sires "discovered" were Red Prince II., Hackler, and Bushey Park, and the true-breeding mares Circe (Play Actor—Mount Royal), Cinnamon (Concha—Mount Royal), Faithful Lassie (Ascetic—Faith), and Athela (Atheling—Aileen Ogue). Well, it should not have entailed a great amount of research to find out that a proportion of the stock of Red Prince II., Hackler, and Bushey Park have won jump races; that is a matter of common knowledge. Then, in regard to the mares, every pedigree student knows that Flaxman, Old Fairyhouse, Cackler, Flaxseed, and Distaff are by Hackler out of Circe. But he is also aware that Distaff, like her three half-sisters, by Bushey Park, Laveno, and Ireland respectively, have never won, a circumstance to which Mr. Hurst makes no reference. Nor does he explain why Brown Hackle by Hackler out of Cinnamon, should have been able to win little steeplechases whilst her unnamed sister has never seen a racecourse; or, again, why there should have been such noticeable variability in the offspring of Red Prince II. and Athela.

MISCONCEPTION.

We have been led to understand that the labours of Professor Cossar Ewart and Mr. Hurst, in their search through the Stud Book and "Racing Calendar," re-

sulted in the elimination of many hundreds of heterozygous (not true-breeding) and doubtful animals. But I suggest that the weeding out process might have been carried a little further. To write of replacing the King's Premium horses with animals of the calibre of the produce of Red Prince II. and Athela reveals a lack of practical knowledge, and, to be perfectly candid, it seems that the scheme is founded on a series of misconceptions.

In the first place, it has been assumed that steeplechasers are of a uniform type as regards conformation, whereas the skeleton varies very greatly in different individuals which have been seen in the front rank as jumpers. Cloister, Manifesto, Ambush II., Why Not, Moifaa, and Father O'Flynn, for example, bore no resemblance to each other whatever. Yet they were all Grand National winners. Again, though the gross bulk of the muscles of locomotion is closely related to the size and shape of the bones to which they are attached, the special physiological properties of the individual fibres of which a muscle is composed are not associated with any special skeletal conformation; that is to say, mere make and shape are no evidence whatever of stamina.

Another mistaken notion is that jumping ability or instinct is represented by a specific Mendelian character. A little reflection will show the falseness of this view. Ability to jump depends not on one but on many characters, and these are transmitted quite independently of each other. It is true that a quick and safe jumper must possess the faculty of rapidly co-ordinating various muscular movements. But this co-ordination is more an acquired than an hereditary character. In other words, if you want "homozygous jumpers," you must have "homozygous jockeys" and "homozygous trainers." Some men can turn any thoroughbred which is not an absolute weed or cripple into a steeple-chaser.

It is not quite clear what part the two-year-old filly and the two yearling colts are to play in the scheme. But the information in regard to the brood mares is more definite. These "true-breeding" females are to be put either to St. Aidan or Perigord, with the expectation that about one-half the foals will be of the kind required.

In sending the mares to Perigord or St. Aidan no very original steps have been taken. Seeing that no fewer than 35 of St. Simon's sons were returned as sires of winners of jumping races last year, it is not improbable that a little of the St. Simon "nerve force" and stamina may pass to the offspring of the matrons in question. The unique position in France of St. Simon's son, St. Damien, as a sire of jumpers, taken into consideration with the English records, rather looks as though the Welbeck prince of stallions were entitled to be considered a "true-breeding hunter." Further, as many of Galopin's sons—St. Gris, to wit—have sired very high-class chasers and hurdlers, he, too, must come in the same category. So, in the nett result, if you want to breed jumpers, either in England, France, or Australia, it is well to tap the Galopin—St. Simon lines.

It is a little unfortunate that in the foreword to the to the scheme it has been somewhat egotistically stated that if in time to come the experiments prove abortive, it will only demonstrate that Mendelism is inapplicable to horse-breeding. In this connection the old proverb concerning catching your hare before cooking it should not be forgotten. Mr. Hurst has not yet "caught" his Mendelian characters in his "homozygous jumpers"; but, so far as can be judged from the racecourse and breeding tests, he has managed to get together a somewhat mixed assortment of transmissible units. Conclusions drawn from very meagre data are at all times useless for scientific purposes, and the fear is that breeders

of bloodstock generally, who are as yet inclined to view Mendelian heredity with suspicion, may attach undue weight to the results of these experiments, which, in the very nature of things, are bound to be more or less empirical, and give varying results.

It was amply demonstrated over 50 years ago by Lord Glasgow that one can breed thoroughbreds of almost any size or weight or conformation he pleases, but his Lordship's annual "shooting days" bear witness to the fact that it is not an easy matter to fix the characters associated with speed and stamina in the same carcass as the show ring characters of mere beef and bone. Lord Glasgow during his long life had unlimited means, and scores and scores of brood mares and many stallions with which to experiment; and one must be sanguine indeed to anticipate that breeding trials repeated on a very minor scale can furnish information which will extend our knowledge.

At the present time there is a sufficient number of thoroughbred horses in the country suitable for siring stock quite good enough for army purposes. The trouble does not lie with the sires, but in the fact that no intelligent agriculturist will undertake to breed horses for army purposes, either from Irish draught, Devon pack, or any other variety of mares, under the present prices paid by the War Office.

Whatever may be the results of the Burbage experiments and Capt. Part's well-intentioned endeavour, this vital point will be left untouched."

REVIEW.

A MANUAL OF VETERINARY PHYSIOLOGY.—By Major-General F. SMITH, B.B., C.M.G., F.R.C.V.S., F.I.C. Fourth Edition. Demy 8vo., Pp. xij. + 808. Two hundred and fifty-nine illustrations, including one coloured plate. Price 18/- net. Baillière, Tindall & Cox, 8 Henrietta Street, Covent Garden, W.C.

It is now nearly twenty years since the first edition of Smith's Veterinary Physiology was published. Each of its successive re-appearances has been marked by an increase in size; and the present fourth edition contains much more than double the amount of literary matter of the first one. We may add that it contains some 90 pages more than the third edition; and, as it is now printed in smaller and closer type than before, its real increase is even greater than the paging would indicate.

The work, and the peculiar underlying scheme of applying the science of physiology to the problems of daily practice that has always been one of its great merits, is now familiar to all of us. In its present form, when its physiological teaching is deeper and more detailed than ever before, its clinical bearing is perhaps not so immediately evident as in earlier editions; but nevertheless the deliberate application of physiology to practice is as essential a feature of the book as before. The aim of the work is unaltered; the only change in it, beyond the necessary bringing up to date, is an enlargement of its scope.

The plan is exactly the same as that followed in the third edition. The book is divided into twenty chapters, varying in length from 6 to 111 pages, and dealing respectively with the blood, the heart, the bloodvessels, respiration, digestion, the liver and pancreas, absorption, ductless glands and internal secretions, the skin, the urine, nutrition, animal heat, the muscular system, the nervous system, the senses, the locomotor system, the foot, generation and development, growth, decay, and death, and the chemical bases of the body. It is characteristic of the author's methods of working that no chapter has escaped a little enlargement, though some have, of course, received much more than others. In

addition to enlargement, the whole text has, of course, been revised; and only a systematic comparison of the present with the last edition, sentence by sentence, will adequately show the scrupulous care with which this has been executed.

The work is such a familiar one that any detailed description of it seems superfluous, except with regard to the additions. There are so many, and include so great a variety of subjects of greater or less importance, that it is impossible to here enumerate them. Two chapters which have received most enlargement are that on the locomotor system—which, by the way, was little altered in the third edition—and that upon the nervous system, which has been extended very greatly. One noteworthy improvement in connection with locomotion is the increased consideration given to "work."

The amount of work to be expected from horses now forms a separate section of ten pages in small type, which is well worth attention. Another new feature is a section on heredity in the chapter upon generation and development, in which the various classic theories are succinctly described, and an excellent though necessarily extremely condensed and elementary account of Mendelism is given. Some of the pathological appendices to various chapters have also been enlarged; and in that upon the heart we note a summary of the revolutionary modern views of human cardiac disease—a subject to which every practitioner would do well to pay attention. Many other similar features could be cited; but the above will serve to exemplify alike the regard paid to modernity, and the progressive expansion which the work continues to undergo with each succeeding edition.

About a hundred fresh illustrations have been added from various sources. All are good—some very good indeed—and we do not see one that is superfluous. Some anatomical ones in connection with locomotion are especially excellent, and useful into the bargain.

The book throughout is a worthy successor to its three well known predecessors. Smith's Physiology has become a classic work to English veterinary readers, and may be trusted to remain so during the author's life time at least. Its first publication in 1892, filled a gap in our literature by meeting the then existent need for an essentially veterinary physiology; and its subsequent reappearances have only strengthened its unique position. No book in the language can compare with it for the use of the professional student; and of no other book on physiology can it be fairly said that it ought to be in the library of every qualified veterinarian. That has been true of preceding editions, and is still more true of this one.

W. R. C.

Vivisection and the Veterinary Profession.

To the Editor of The Referee.

Sir,—I agree entirely with your correspondent, "Pate, J.P.," and congratulate him on his courage in tackling a public evil.

If the Society for the Prevention of Vivisection would take up the question and prosecute in conjunction with the Society for the Prevention of Cruelty to Animals, all unqualified people who use caustic or irritant remedies upon animals, they would certainly relieve more suffering in a day than they ever will under their present policy.

I have had forty years' experience with horses, and hunted a pack of hounds for twelve years, and have rarely known ointment or lotion recommended by a farmer that did not contain an ingredient of a pain-producing character. During the last four years, whilst

developing the Transport Sections of Territorial Field Ambulances, I have constantly had to explain how needlessly cruel remedies in common use with horses are, and invariably have ascertained the prescription has been given by a farmer or groom.—I am, sir, yours, etc.,

P. BROOME GILES.

Bletchley, March 25.

HOW THE VETERINARY PROFESSION IS HANDICAPPED.

Sir,—The letter from "Pate, J.P.," will come as an eye-opener to many persons. It is quite time that we required the owners and users of horses and other draught animals to treat their beasts as something more than pieces of machinery. The whole question is purely one of £ s. d. to the owner, and if he can have his animal "cured" at a cheap rate he "won't spend more money. An animal as it grows older, becomes more liable to disease, while at the same time its pecuniary value decreases, so that while the owner does not wish to kill it yet, still he does not care to expend the money upon it necessary if a veterinary surgeon were to be called in. For the poor man, there may be some excuse; for the richer, there can be none. The "minimum wage" of the animal should include skilled attendance when necessary.

Meanwhile, as "Pate, J.P.," points out, the veterinary profession is handicapped to such an extent that it is threatened almost with extinction.

Neither the veterinary nor the medical profession is protected in any way so far as the *practice* of medicine or surgery is concerned. The only thing which has been done in regard to those professions is to prevent unqualified persons from using certain names or titles. This also applies to dentists and to certain other professional or highly skilled bodies of workers.

The Royal Veterinary College gives a first-rate education to its students, one which becomes every day more highly scientific. Its researches into the causation of disease are doing much for the welfare of the human race. It is not to be thought of for one moment that such an institution is to be allowed to languish because its members do their work in a humane and scientific manner. The blacksmith who spoils your motor, if you are fool enough to allow him to try his hand upon it, is the same man, as ignorant, and as self-sufficient, who "doctors" the local horses and does the painful operations which your correspondent speaks of. The treatment required by the case is obvious, and lies in the hands of the public.—I am, sir, yours, etc.

F. R. HUMPHRIES, M.R.C.S.

Hampstead, March 26.

Donations to R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donation to the College funds from:

Mr. J. M. Christy, Pretoria, S. Africa	£2 2 0
Amount previously acknowledged	10 10 0
	<hr/>
	£12 12 0

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, April 2.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

A. F. Castle, M.R.C.V.S., to be Lieut. Dated April 3.

Lieut. F. Hogg has been transferred from Aldershot to Dublin.

Lieut. R. C. G. Thwaytes has been transferred from Dublin to Preston.

Capt. H. S. Mosley arrived from India in Transport "Plassy" on April 3, and has been posted to Aldershot for duty.

Personal.

J. A. GILRUTH, M.R.C.V.S.—ADMINISTRATOR.

Prof. Gilruth, Director of Veterinary Instruction at the Melbourne University, has accepted the offer made to him of the post of Administrator of the Northern Territory. The Federal Government has increased the salary, which had originally been fixed at £1500 a year, to £1750, with allowances amounting to £500 a year.

Prof. Gilruth, who is 41 years of age, commenced his veterinary studies at Glasgow College, his final year being taken in London, where his diploma was obtained in 1892. Soon afterwards, he went to New Zealand as Government Pathologist. In addition to doing excellent work in that capacity, he found time to write upon his investigation of animal diseases, and became well known as an authority on the subject in the scientific centres of the world.

In 1909, he was appointed Professor of Veterinary Pathology at the Melbourne University. Last year, in company with Prof. Baldwin Spencer, he paid a visit to the Northern Territory as a member of a scientific expedition.—(From *The British Australasian* of 21st March.

The late ROBERT LANG, Veterinary Surgeon, Bridge of Weir, has left estate valued at £6100 9s. 11d.

OBITUARY.

WYNDHAM BRYER, M.R.C.V.S., St. George's Terrace, Cheltenham. Graduated, Lond: Dec., 1855.

Mr. Bryer died on March 28th, at 87 Parkwood Road, Bournemouth, from exhaustion following apoplexy. Aged 79 years.

J. McDougall, M.R.C.V.S., 56 Grant St., Glasgow. Glas: Dec., 1892.

Death occurred on April 1st, from cardiac failure. Aged 42 years.

EDWARDS.—On the 28th March, at Common Wood, King's Langley, Herts., Georgina Harriett Bowers Edwards, widow of the late Henry Edwards, M.R.C.V.S., of St. Albans, Herts.

CORRESPONDENCE.

ON THE SWALLOWING OF FLUIDS.

Sir,

Under page 616 in this week's *Record* there is a short note with the heading, "A practical method of inducing horses to swallow fluids." The writer states it has been in use a long time. I agree, and thought it was well known in the Profession, having myself adopted it five-and-twenty years ago when first in practice; but, unlike the writer, I fear my patients had to put up with the temporary inconvenience of a small quantity of the draught (whatever it might be) being administered per nostril, as my experience was—one never knew what sort of an animal you had to deal with, until you started on him. Also, a rather important point from my old-fashioned ideas of practice; nine times out of ten the groom or attendant never knew what I had done, and consequently regarded me as one of the best men he had ever seen drench a horse; honestly an unmerited distinction, which nevertheless frequently assisted to fill the ledger.

In respect to the quantity of fluid (clean water) a horse can receive per nostril without harm, I hold quite an open opinion on; but I am satisfied that it is far more than most persons might think. I well recollect a case of a hunter mare on whom I performed a tracheotomy; she was hunted for years after, and I frequently was asked to remove granulations from the inside of the tube; on many occasions I noticed when that mare drank a bucket of water a quantity always found its way into the trachea and trickled out at the tracheotomy opening. Whether this is a condition all bad roasters are subject to, I know not. If so, all I can say is, those who do not have the trachea opened must have a considerable quantity of water enter the lung cavity in the course of a twelvemonth.

I fear there is nothing new in what I have written, but should this short note only stimulate the good young men in our profession to make the best of their powers of observation and also cultivate tact, a valuable trait of character, nowadays, I fear, often neglected, the object of the writer will have been attained.—yours truly,

F.R.C.V.S.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.		Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
		Outbreaks		Animals		Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Out-break.	Slaughtered.
		Con-firm'd	Re-ported	Con-firm'd	Re-ported									
G.T. BRITAIN.														
Week ended Mar. 30		22		23			5	11	58	170	4	66	958	
Corresponding week in	1911	17		20			4	5			5	51	518	
	1910		37	58			6	17			10	16	116	
	1909		26	40			16	76			14	33	332	
Total for 13 weeks, 1912		325		356			47	105	1518	3553	143	790	9808	
Corresponding period in	1911	261		301	1	18	52	184			280	513	5731	
	1910		405	498			93	259			283	297	2210	
	1909		353	518			147	522			370	366	3209	

* Counties affected, animals attacked: London 9, Warwick 2.

Board of Agriculture and Fisheries, April 2, 1912.

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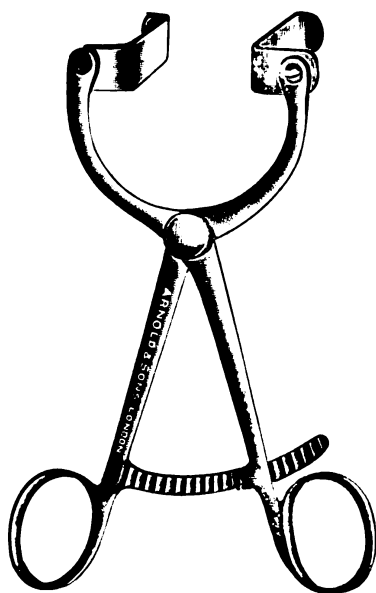
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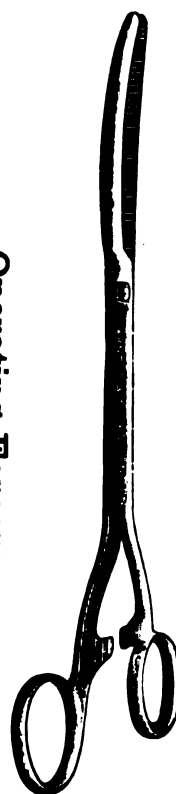


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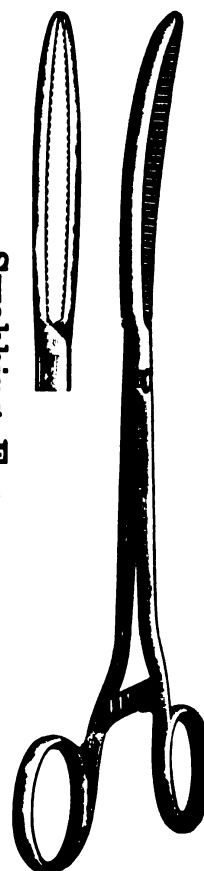


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Royal Counties V.M.A.

A GENERAL Meeting will take place on Tuesday, April 16th, at the Laboratory of the Board of Agriculture, Alperton Lodge, Alperton, by the kind invitation of Stewart Stockman, Esq. The chair will be taken by the President, at 2.30 p.m. Agenda. Routine business: Appoint Delegates to Public Health Congress: Demonstration by Mr. Stockman: Paper by Mr. Willett, M.R.C.V.S., London, "Notes on Twists of the Intestines." Specimens and Cases of Interest.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1240.

APRIL 13, 1912.

VOL. XXIV.

THE EXTENSION OF VETERINARY PRACTICE.

Some recent correspondence in the public Press, a few extracts from which we have reprinted, may do good by calling popular attention to the evils of animal doctoring by unqualified men. But its beneficial effect will be very limited. Broadly speaking, the owners of animals responsible for the evil may be divided into two classes—those who do not choose to employ veterinary surgeons and those who cannot afford to. Such correspondence as that published in *The Referee* may do something to educate the former class, but can, unfortunately, have little or no effect upon the latter. This class deserves separate consideration; for there are many owners of animals to whom veterinary fees are practically if not absolutely prohibitive. The result is that very many animals, even horses, never receive qualified veterinary attention throughout their lives. So long as that goes on it cannot be said that the veterinary profession is as useful to the community as it might be.

It is not easy to suggest a remedy. One obvious method—that some veterinary surgeons should deliberately lay themselves out to meet the needs of poor owners—could be practised in populous districts, but is open to grave objection. The sixpenny doctor and the club doctor have been recognised units in the medical profession for a long time. But the positions they hold are not enviable, and their utility is limited. They are hard worked and poorly paid; and one inevitable consequence of their overwork is that they are forced to give their too numerous patients the minimum of attention. On the whole, the attempts to supply medical attendance at the very cheapest rates have done little good to either doctors or patients; and there is no reason to think that they would work any better if introduced into veterinary practice.

How to bring the large amount of veterinary work at present done by unqualified men into the hands of the profession is well worthy of the most serious consideration. In the case of owners who can afford veterinary fees, the problem is simply how best to accelerate their enlightenment; for there is no doubt at all that the public is gradually awakening to the value of the trained veterinarian. The recent establishment of veterinary inspection at Scottish shows was one sign of this; the present correspondence in *The Referee* is another. Absolutely impecunious owners stand upon a different footing; and it is difficult at present to see what can be done for them in the mass. But they form the minority; the great majority of owners can well afford a moderate veterinary fee.

DEMODEX BOVIS.

By S. N. MITTER, G.V.C.BENG., Calcutta.

(From the Raymond Research Laboratory).

In the beginning of last September, an outbreak of a "peculiar kind of fever" among cattle was reported from certain swampy localities in Midnapore on the right bank of the River Rupnarayan, and I was directed to investigate the disease. I found the country to be inundated by the River Rupnarayan, which stopped all agricultural work. I detected within this area several cases of the malady in different stages.

The disease is characterised by the formation of nodules about the size of a large pea, and starts from the hump and neck and spreads all over the body, especially on the shoulders, legs and chest. These local symptoms are generally preceded by fever ranging from 102° F. to 103° F. for 2 or 3 days. While the nodules are forming the skin is inflamed and each spot is surrounded by a hæmorrhagic zone. After a time, which may vary from 3 to 6 days, the nodules become pustules, and a small quantity of thick pus oozes from a small orifice, but most of the matter remains within the abscess, this pus afterwards gives rise to permanent local thickenings. The hair over the pustules generally falls off, leaving a black patch. The disease is carried to the healthy by means of birds, especially crows, and flies. This view is also confirmed by the ryots.

On microscopical examination of material from one of the pustules a large number of demodex was noticed in different phases of development. The length of the mature female varied from 250 μ . to 300 μ . and breadth taken at widest part of cephalothorax from 50 μ . to 60 μ . The length of the male 210 μ . to 230 μ . and breadth from 45 μ . to 50 μ .

Nearly 75 per cent. of the zebu cattle were affected. Calves were more generally attacked than the adults. The disease was not fatal.

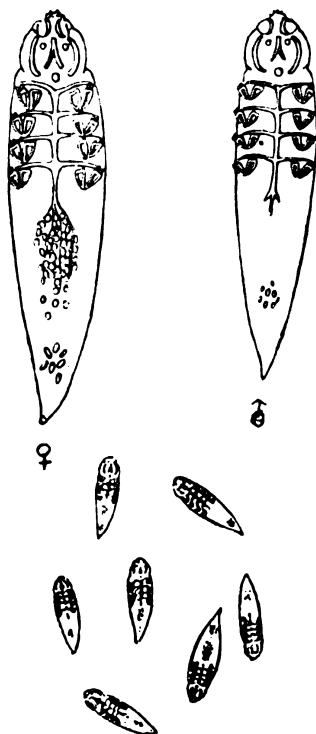
This disease is locally known as "Kat Basanta," or "dry small pox," from the symptoms it presents. "Basanta" is a name which is also given to the skin disease which occurs in Rinderpest. Demodex is reported to occur in the area about the same time every year.

The following extract, from Prof. Neumann's Treatise on Parasites, on the subject may be of interest.

"Demodex of the Ox (*D. Folliculorum* Var *Bovis*). The average length is 200 μ . The rostrum and cephalothorax form about two-fifths of the total length. Eggs ovoid in shape. Causes a pustular affection in the ox."

"The demodex already noted by Gros (1845) in the muzzle of the horse, was found by W. Faxon in 1878 in the hides of cattle prepared for tanning, and sent from Illinois and Minnesota to Boston. More especially in the region of the neck and shoulders these skins showed numerous pustules formed by dilated hair follicles; they were filled with a soft whitish matter which escaped by pressure and was composed of fat globules and a multitude of the Demodex. After being tanned the skins exhibited small cavities, many of them extending through the substance of the hide."

"A case of the disease was observed by Grim in a fifteen-months - old heifer, badly developed and in poor condition, notwithstanding good food. With the exception of the head and limbs, the skin elsewhere—especially at the shoulders—was studded with nodules the size of a pea. The surface of these small tumours was hairless and smooth, and when squeezed yielded a thick viscid pus containing an enormous quantity of the Demodex. The other animals in the herd were quite healthy in every respect."



From a fresh specimen. The lower figures are drawn with a Swift's microscope OcII. obj. 2in. The upper two figures are 4-1/3 times enlarged from the lower ones

THE PHONENDOSCOPE.

The object of this instrument is to render audible all sounds, whether natural or caused by morbid conditions of the animal body. They can be heard with much greater intensity and within much more narrow limits than has been possible with the ordinary stethoscope. At the same time it conveys with great accuracy the nature of the sound.

Next to the clinical thermometer the phonendoscope is the most useful instrument to the general practitioner. With a view to bring it into more general use, I will mention a few conditions where it can be applied with decided advantage to both surgeon and patient.

Beginning at the head, the nasal passages and various sinuses can be examined and obstructions located, such as polypus, thickening of the membranes, and pus. Passing to the throat and larynx,

the moist, faint whispers from any abnormal condition can be heard, and the finger placed on the exact spot. The large blood vessels and semilunar valves can be examined at the front of the chest. In doing this the use of the sound-post gives best results; by its use one is more certain of locating with extreme accuracy the lesions that may be present.

The heart can be examined from the usual position. Consolidated portions and abnormal sounds of the lungs are easily and certainly located. To any one familiar with the positions of the large and small bowels, any sounds from these can be easily placed, and useful knowledge obtained as to which portion of the bowel is active and which dormant.

For ascertaining if an animal is pregnant the instrument can be used on the lower part of the abdomen in front of the mammary gland, or it can be introduced into the rectum or vagina when the rhythm of the foetal heart can be heard. For diagnosing the exact position of deep-seated fractures and locating those of a more superficial nature. Fractures of the pelvic bones may be discovered by unloading the rectum, and introducing the instrument, having an assistant to move the limbs at command. Abnormal sounds in joints may be made out easily, and assist often in diagnosing obscure lameness.

I have *not* had an opportunity of trying it on a case of navicular disease, but have no doubt that it would be of assistance. I think the friction sounds produced by contact of the diseased surfaces would be audible.

The instrument as supplied to the medical profession requires modifying to meet the demands of our work. This I have carried out, so that the instrument can be easily and conveniently used on any of our patients.

R. M. MALLOCH, M.R.C.V.S., Inventor,
Designer, and maker of veterinary instruments.
Kirkby Stephen.

ABSTRACTS.

ON THE OCCURRENCE OF TWO SPECIES OF PARASITES IN EQUINE "PIROPLASMOSIS" OR "BILIARY FEVER."

Nuttall and Strickland have recently published (*Parasitology*, Vol. V., No. 1, 1912) some important researches upon the parasites found in equine "piroplasmosis" or "biliary fever." Hitherto this disease has been regarded as due to a distinctive parasite, the *Piroplasma equi* Laveran. Laveran studied the organism in stained blood films sent to him from South Africa by Theiler, and his description and figures show that his *Piroplasma equi* does not possess the characteristic mode of multiplication and form of a true *Piroplasma*. Franca, in 1909, therefore placed Laveran's parasite in a new genus, which he named *Nuttalia*. Koch had previously pointed out, in 1905, that two types of parasites occur in equine piroplasmosis, and he believed that they might cause distinct diseases.

The present authors clearly show that two distinct species of parasite are found in "biliary fever," and that consequently two distinct diseases are included under the name.

Nuttall and Strickland have studied both parasites, not only in fixed and stained preparations, but also when living in the blood. By so doing, and continuously watching the changes of form which the living parasites undergo (and which have led them to attach comparatively little importance to the variety of forms seen after fixing and staining), they have arrived at the following definite conclusions. The essential difference between the two parasites lies in their methods of multiplication.

Piroplasma equi—or *P. caballi* as the authors call it—though its scarcity in the blood of infected animals renders its examination *in vivo* difficult, can yet be seen to multiply after the same manner as *P. bovis* or *P. canis*. That manner may be briefly described by saying that two buds of protoplasm appear from the single parasite, the chromatin protruding into these buds in a fork-like fashion, and that the buds or incipient daughter-cells continue to augment at the expense of the mother-cell till a stage is reached at which the two daughter-cells have assumed the form of perfect piroplasmata still joined together by their pointed ends. The chromatin masses in the daughter-cells separate, and finally the daughter-cells themselves separate, and escape from the corpuscle. The process, like that in *P. bovis*, is slower than in *P. canis* but otherwise is similar to the latter. Study of the stained parasites shows them to be very closely allied to *P. bovis*, the chromatin structures of the two organisms being identical.

The multiplication of *Nuttallia equi*, with regard to which the authors' conclusions support the previous ones of Franca, is somewhat more complex. It may be briefly summarised by saying that the parasite, at first round (most usually), oval, piriform, or irregular in shape, develops a stellate or "cross" form. This is the multiplication form, and, when complete, consists of usually four, but occasionally five or even six young parasites, oval or piriform in shape, arranged cross-wise, and still attached to one another by their narrower ends. Finally they separate from each other and escape from the corpuscle, in which they may move about very actively before leaving it. The authors did not actually see the young parasites enter fresh corpuscles; but they are convinced that this takes place, as if does in the case of *Piroplasma*.

Nuttallia equi stains similarly to *Piroplasma*; and the division of its cytoplasm is preceded by definite nuclear changes.

As a rule, *N. equi* is not very abundant in the blood, but the number of infected corpuscles varies very greatly. In the authors' three experimental horses the maximum number of infected corpuscles observed was respectively 5.4 per cent., 0.9 per cent., and 13.2 per cent. The parasites appear in the blood at the onset of fever, and their number rises and falls with the body temperature.

Finally, the authors have experimentally proved in one instance that a horse which has been infected by and has recovered from piroplasmosis is still

susceptible to infection from the *N. equi*. It is clear from their researches that the term biliary fever or piroplasmosis really includes two distinct diseases, produced by two equally distinct parasites. They promise a general summary of our present knowledge of these two diseases—Nuttalliosis and piroplasmosis in horses in different parts of the world in a future paper. In the meantime they suggest that trypan-blue, which has already been found of value in treating bovine and canine piroplasmosis, might be of equal service in equine piroplasmosis; and they add the remark that the drug may be found to influence *N. equi* differently to *P. caballi*. A footnote contains the information, received while the article was in the press, that Bielitzer, in Russia, has recently successfully treated equine piroplasmosis by means of trypan-blue.

PIORKOWSKI'S DISTEMPER SERUM.

Jakob reports (*Münch. Tier. Woch.*) his experience with Piorkowski's anti-distemper serum. He attempted to immunise 20 dogs with the serum. Ten of these dogs sickened with typical distemper, two dogs doing so 14 days after the inoculation, two dogs 21 days, one 23 days, three 49 days, one 72 days, and one 83 days. In addition, two other dogs showed catarrhal affections of the laryngeal and intestinal mucous membranes, which could not be regarded as distemper with certainty. Of the ten dogs affected with typical distemper, five died.

Jakob also employed the serum in the treatment of three distemper patients. Two died and one recovered; but Jakob is inclined to attribute the single recovery to the action of medicinal agents which he employed in conjunction with the serum, —(*Berl. Tier. Woch.*)

MULTIPLE ACTINOMYCOSIS.

Prof. Schlegel, of Freiburg, reports (*Zeitschrift für Tiermedizin*) a case of multiple actinomycosis of the reticulum, omentum, liver, diaphragm, and right lung. The subject was a five-year-old ox, and the lesions originated from internal injury by a foreign body.

Reticulum, omentum, liver, and diaphragm showed injuries and cicatrizations. Multiple actinomycotic abscesses of considerable size existed around the injuries. A grey-red growth of granulation tissue the size of the fist, containing grey-yellow foul-smelling pus, was upon the omentum. The middle of the liver was occupied by an actinomycotic abscess the size of a man's fist, with numerous smaller yellowish-red actinomycotata, ranging from chestnut to apple in size, in its vicinity, so that a hard adhesion the thickness of the hand existed between the liver and diaphragm. The diaphragm was adherent to the right lung by means of a hard fibrous deposit the size of a plate, and several centimetres thick; and actinomycotic new tissue was growing deeply into the pulmonary tissue, especially into the intestines.

Numerous actinomycetes, and also pyogenic organisms, could be demonstrated in the masses of new tissue and in the abscesses.—(*Berliner Tier. Woch.*)

W. R. C.

NORTH WALES VETERINARY SOCIETY.

A meeting was held at the British Hotel, Bangor, on March 26th at 3 p.m. The following members were present: Mr. O. Trevor Williams (President); Dr. Evans; Messrs. Owen Thomas, W. Hall Savage, C. W. Cartwright, Richard Jones, Hon. Treas.; L. W. Wynn-Lloyd, Hon. Sec. Visitor: Mr. E. Wallis Hoare.

The minutes of the last meeting were read and confirmed.

The SECRETARY read the circular letter from Mr. A. Gofton, Secretary of the National Affiliation scheme. It was resolved to adhere to the scheme and become affiliated under the new rules.

Apologies for non-attendance were received from Messrs. R. S. Rowlands, J. H. Wynne, and A. W. Noel Pillers.

The HON. SEC. proposed, and the President seconded, a vote of condolence with Mr. J. Mathews on the death of his brother.

The PRESIDENT proposed, and the Hon. Treasurer seconded, a similar vote with the Hon. Sec. on the death of his mother.

Both resolutions were carried unanimously, the members standing.

A discussion ensued as to the disposal of surplus from the entertainment of the National at the Carnarvon meeting last July.

It was proposed by the Hon. Sec., and seconded by the Hon. Treasurer, that half be handed over to the Victoria Benevolent Fund and one-half to the International Veterinary Congress (1914) Fund. Carried.

THE TREATMENT OF WOUNDS.

By E. WALLIS HOARE, F.R.C.V.S.

Mr. President and Gentlemen,—In selecting the "Treatment of Wounds" as a theme for discussion I venture to think that it is one that may prove of interest to every practitioner; certainly there are many points in connection with it, which offer ample room for an interchange of opinions, ideas, and experiences, the result of which is likely to prove useful in our daily work.

I freely confess that one of my reasons in choosing this subject is to ascertain as far as possible to what extent the principles of aseptic surgery can be applied to animals.

I am quite aware that in certain quarters it is held that aseptic surgery *can* be applied to animals, and that failures in this direction are to be attributed to want of care on the part of the practitioner, or to prejudice. But in drawing conclusions on matters of this kind, it is essential to possess a varied experience of surgery under conditions favourable and unfavourable, both in town and country; and one important point that I shall endeavour to demonstrate will be with reference to the effects of environment and certain unalterable conditions that exist in connection with the treatment of wounds in our patients.

I have also another object in view: many medical men and several of the laity hold the erroneous opinion that we do not take the trouble to practise aseptic surgery; we are constantly asked why wounds do not heal by first intention, and why we do not adopt this or that measure which proves so successful in the case of wounds in man. For remember, that owing to the spread of popular medical knowledge the "man in the street" now professes to know something about surgical technique. Horse-owners, through reading various popular works on veterinary science, pretend to know all about antiseptics, and the suggestions that are often made to us when treating wounds are grotesque in the extreme. My

remarks throughout this paper will be specially directed to demonstrate the fact that veterinary surgeons appreciate the importance of aseptic surgery, and endeavour to carry out its principles as far as circumstances will permit them to do so.

Let us first of all take a retrospective view of veterinary surgery as applied to the treatment of wounds. That marked progress has been made is a fact apparent to even the most pronounced pessimist. This advancement must be attributed to the discoveries of Lister, and although the researches of this eminent scientist were directed to the perfecting of human surgery, there is no doubt whatever that the application of his principles to veterinary surgery has been productive of results which, if they cannot be described as brilliant, are at any rate most striking and satisfactory. For although abdominal surgery and the surgery of the joints are, so far as the horse is concerned, in a state of infancy up to the present time, everyone will admit that canine surgery has advanced by leaps and bounds since the principles of Lister have been applied to it. And even in the case of the horse we can justly claim that marked advancement has occurred by attention to Listerian principles. Again, a knowledge of the principles of wound infection has enabled us to prevent the occurrence of those fatal sequelæ of wounds, such as septicæmia, pyæmia, malignant œdema, etc., which were so frequently met with in former days, following accidental and surgical wounds.

Two factors were instrumental in the erroneous treatment of wounds that existed in former days. One was the lack of knowledge concerning wound infection, nothing being known with reference to micro-organisms or their effects.

Another was the prevalent idea that heroic measures were essential to promote healing; hence the employment of "black oils" and similar concoctions, a sublime ignorance existing as to the deleterious effects of irritants on wounds, and as to the existence of natural means of recovery.

The researches of Lister may be said to have extended from 1865 to 1890, and it is recorded that even up to 1880 a number of eminent surgeons were incredulous as to the value of the antiseptic treatment. Hence it is not surprising to find that in Veterinary Surgery up to this period the Listerian principles were not universally adopted.

It may truthfully be said that as that antiseptic treatment progressed from stage to stage in human surgery, its value was recognised by Veterinary Surgeons and its principles gradually came to be adopted. The earlier forms of this treatment would no doubt be considered crude in the present day.

We read in *The Lancet* that in 1865-66, compound fractures were treated by the local application of carbolic acid; the antiseptic was freely applied to the interior of the wounds in order to destroy the air-borne germs which had the property of causing putrefaction, the opening in the integuments was then covered with lint charged with carbolic acid, and protected by an external layer of thin sheet metal. "In opening abscesses, a piece of rag from 4 to 6 inches square was dipped into a solution of one part of crystallised carbolic acid and 4 parts of boiled linseed oil, and then laid upon the skin where the incision was to be made. One edge of this rag being raised, the part was incised with a knife previously dipped in the oil, and the rag was instantly dropped upon the skin as an antiseptic curtain, beneath which the pus flowed out." "For the subsequent dressings a kind of putty was made by mixing common whitening with the carbolic oil, and this, spread into a layer about 6 inches square, was laid over the incision."

From this simple and crude beginning evolved those principles which were ultimately destined to revolu-

tionise surgery, and render the discoverer the greatest benefactor to mankind that ever existed.

In 1867, carbolic shellac plaster was substituted for the putty and found more convenient, and during the same period ligatures of silk or catgut were introduced, the latter however did not assume their final form until 1881. Even with the above primitive antiseptic measures a marked improvement resulted in surgical work, and Lister recorded that Hospital gangrene, Pyæmia and Erysipelas disappeared from his wards.

In 1869 the carbolic spray was introduced by Lister. He still continued his researches, even in the face of opposition, and recorded in 1870 that for 9 months in the Edinburgh Royal Infirmary he had not met with any cases of Pyæmia or Hospital Gangrene in his wards.

In 1875 gauze charged with carbolic resin took the place of the shellac plaster, and various methods of employing carbolic oil and drainage tubes were described in articles written by Lister for *The Lancet*. In these articles were also discussed the sterilisation and use of sponges, and experimental proof was adduced that "the septic ferments were solid particles and not some kind of material in solution." The use of boric acid as an antiseptic was also described.

In 1879 improved methods of protective dressings were introduced, so as to prevent the carbolic acid in the external dressings from reaching the wound, once the latter had been rendered aseptic by the primary application of the antiseptic. This protective dressing was composed of oiled silk coated on both sides with specially thick copal varnish and afterwards covered with a layer of dextrin, so as to ensure its being moistened when dipped into a watery solution of carbolic acid. In cases where patients showed special idiosyncrasies to the employment of carbolic acid, either salicylic jute or gauze charged with a mixture of one part of oil of Eucalyptus and three parts each of gum dammar and paraffin, were employed.

In 1881 Lister delivered two addresses containing what seemed to be his first published reference to pathogenic bacteria as a distinct class of micro-organisms; and in 1883 he demonstrated the success of wiring of the patella, when antiseptic principles were employed.

In 1884 he drew attention to the uses of corrosive sublimate as a surgical dressing, and in 1889 he pointed out that Sal. alembroth was untrustworthy as an antiseptic, and in the same year he introduced the double cyanide of mercury and zinc as a reliable agent to render gauze antiseptic, but pointed out that its germicidal efficacy, or ability to destroy existing bacteria, was inferior to its power of inhibiting bacterial growth, hence it was advised that the dressing should be moistened with a 5 per cent. solution of carbolic acid before being applied.

In 1890 Lister announced that he had abandoned the use of the carbolic spray three years previously, and that he had substituted solution of Corrosive sublimate for carbolic acid, having found the former less irritating and more efficient; he also pointed out that the double cyanide of mercury and zinc could be prepared in a perfectly definite manner, and although the new product contained twice as great a percentage of cyanide of mercury as was present in the substance originally used, it had no tendency to cause irritation.

In 1907 we find what may be regarded as the final utterance of Lister, in a note occurring in Sir Hector Cameron's book "On the evolution of wound treatment during the last forty years." In this note "he advocated the use of the double cyanide of mercury and zinc, he preferred the use of sponges for the absorption of blood or other discharges from an operation wound to any of the substitutes that were proposed, while for the purification and sterilisation of such sponges, with an especial view to the destruction of both the sporeless micrococci and the spore-bearing tubercle bacillus, he preferred

carbolic acid (1 in 20) to any other germicide. For purifying instruments, the hands of the operator and the skin of the patient, he used a similar solution, except in the case of the eyelids, when a solution of corrosive sublimate being less irritating, was preferable."

In circumstances where it was impossible to exclude septic agencies, such as in operations upon the mouth, etc., or in putrid sinuses or in certain compound fractures, Iodoform might be dusted on the cut surface of a wound, "after mopping with a solution of 40 grains of chloride of zinc in one ounce of water." The usefulness of iodoform was, however, rather limited. In the external dressing, gauze impregnated with the double cyanide of mercury and zinc was advised, and before being applied to the wound this gauze must be rendered damp with a solution of carbolic acid. To parts where there was very little space between the wound and some source of septic contamination, the double cyanide powder mixed with sufficient of the 1 in 20 carbolic solution to form a cream, might be applied with a camel's-hair brush. In some circumstances the cyanide powder might possibly be used as a first aid dressing by dusting it over wounds by means of a tin with a perforated top.

As regards the changing of dressings, when there was a free discharge from a wound he preferred, as a rule, to remove the first dressing after a lapse of 24 hours, but a longer interval ought to be allowed after certain amputations.

The above abridged history of the evolution of antiseptic surgery is taken from the biography of the late Lord Lister that appeared in *The Lancet*.

During the course of Lister's career he had to submit to severe and often unjust criticism, but this is the fate of all those who attempt to leave the beaten track. One of his opponents pointed out in 1867 that Lister was not the first surgeon to use Carbolic acid, but this was already admitted. It is also recorded that Sir Wm. Savory (who was President of the Royal College of Surgeons for five years in succession, and full surgeon at St. Bartholomew's Hospital from 1867 to 1891) at the meeting of the British Medical Association held at Cork in 1879, delivered the address in Surgery, and spoke in attack or ridicule of the system of antiseptic surgery. I introduce this matter in order to show that surprise should not be expressed if examples of similar opposition existed amongst veterinary surgeons; that such did exist I have no doubt, but in the present-day there are few practitioners who deny the benefits of Listerian principles.

In order to comprehend the principles of the modern treatment of wounds, and to compare the *Antiseptic* methods with those designated as *Aseptic*, it is necessary to briefly consider the significance of certain terms that are employed in connection with the subject. Unfortunately it happens that the same term is occasionally applied in more senses than one, or has a different meaning attached to it by various authors.

The term "Septic" was formerly applied to wounds of an offensive character, which were frequently associated with Septicæmia, pyæmia, etc. But, as in the present day it is recognised that the conditions may arise from the action of pus-producing organisms, the term septic is generally applied to all suppurating wounds.

Recognising, however, that wounds may be offensive and distinctly unhealthy without any evidences of the presence of pus, it is clear that the term septic can be applied to conditions depending on a variety of micro-organisms. In many cases the septic condition of a wound depends on one pathogenic organism, but in almost every instance ordinary pyogenic organisms are present associated with those characteristic of sepsis.

In practice, we are generally inclined to apply the term *Septic* to a putrid condition of a wound associated or not with the presence of pus. As a very large number of accidental wounds in the horse heal by "granulation," but not under aseptic conditions, suppuration to a varying extent is common; still the pus is not offensive, the wound tends to heal with ordinary care, and we do not apply the term *Septic* to it, although certainly it could not be described as aseptic. A large number of accidental wounds in horses are already infected before the practitioner gets the chance of treating them.

ASEPTIC signifies the absence of sepsis, that is the absence of micro-organisms of any kind, and the term is synonymous with *sterile* or *germ-free*.

ANTISEPTIC is a term that is often loosely applied; literally it signifies anything opposed to sepsis; in a bacteriological sense it indicates an agent that retards or prevents the development of bacteria, irrespective of its power of destroying their vitality. But it is often erroneously applied as synonymous with *germicide*, whereas a large number of agents classed as antiseptics are not capable of destroying pathogenic bacteria.

DISINFECTANT is a term applied to an agent capable of destroying infective micro-organisms, and so far as pathogenic bacteria are concerned it is synonymous with *Germicide*. So that all disinfectants are antiseptics, but all antiseptics are not disinfectants.

DEODORANTS simply indicate substances that are capable of destroying or removing offensive or unpleasant odours, but it does not follow that they possess disinfecting properties. Many disinfectants however, are deodorants.

ASEPTIC AND ANTISEPTIC SURGERY.

To such an extent has the subject been debated that two so-called "schools" have resulted, and even these are not in agreement as to the precise sense in which the term *Aseptic* should be employed. There is in fact a decided antagonism between these "schools" as to the technique which is best calculated to bring about successful results, for be it remembered that both aim at the prevention of infection in wounds, and thus endeavour to promote healing in the shortest time possible. Briefly speaking, the *Aseptic system* aims at preventing the access of pathogenic bacteria to wounds, it embraces all the measures adopted to keep the wound aseptic, or free from the ill-effects of septic organisms, throughout its entire course, Antiseptic agents, except for sterilising the patient's skin, the hands of the surgeon, or in the process of sterilising ligatures, are rigidly excluded, and not permitted to come into contact with operation wounds; while all the materials used, such as ligatures, sutures and dressings contain no antiseptic, but are simply sterilised. The instruments are sterilised by boiling and are not placed in an antiseptic solution. Of course, the Aseptic method can only be applied to operation wounds made through unbroken skin into non-infected tissues.

The disciples of the Aseptic school, term the methods in which antiseptics are employed, either in solutions or dressings, as *antiseptic methods*. Some even go further than this, for we find one surgeon, Mr. Burghard, stating that the term "antiseptic" when applied to the treatment of wounds should be reserved for those measures designed to combat sepsis already present in a wound.

The *Antiseptic School* claim that their methods are also aseptic, although as a means of precaution they employ antiseptics in addition to the means for securing asepsis. Sir Watson Cheyne, who is one of the advocates for this method, states—"Aseptic surgery is the method of treatment directed to the maintenance of an aseptic condition in the tissues of the wound presumably existing at the time of operation. . . . But on the other hand, antiseptic surgery has to deal with tissues which have already been infected, with or without a breach of the surface, and here the surgeon's efforts are

directed to diminishing the effects of already existing sepsis, or, it may be in a few cases, even to eradicating it."

Mr. Lockwood, who steers a middle course, says in his work on Aseptic Surgery, "any method of wound treatment which aims at sterility will be called aseptic."

The bone of contention between these two systems would appear to be the question of the employment of Antiseptics; those of the Aseptic school holding that these agents by causing irritation interfere with the normal powers of resistance of the tissues, and thus retard healing. This weakening of the resisting power of the tissues may even enable micro-organisms to enter and take effect, in cases where surgical cleanliness was neglected although Antiseptics were employed.

Sir Watson Cheyne, however, points out in the "Bradshaw Lecture on the Treatment of Wounds" (1908), that the Listerian principles in wound treatment include two important postulates, (1) "the exclusion of bacteria, especially of pathogenic organisms, as far as possible during and after an operation. (2) Avoidance of irritation of the surface of a wound, so as not to interfere with healing nor with the power of the tissues in preventing the growth of any bacteria which have entered."

This authority clearly explains that, by the Listerian system, every precaution is taken to prevent irritation from the antiseptics employed, and also states that even with adherence to the strict principles of the so-called aseptic system, suppuration has occurred when operations were carried out in regions other than the peritoneum. He believes "that of late many surgeons have gone to extremes in the avoidance of antiseptic solutions," and that the aseptic system, so-called, is "only carrying to an extreme the principle of avoiding irritation of wounds." He also shows that even the application of plain boiled water to the surface of a wound interferes with the integrity of leucocytes and other cells, for under the microscope they are found to rapidly swell up and become completely disintegrated. In summing up his criticism he states that "the pendulum has swung too far in the direction of the avoidance of antiseptics, and that the reasonable use of all the means at our disposal for securing asepticity of wounds will furnish more constant results." He also says "the chief point to which I take exception is the employment of dressings which do not contain an antiseptic in sufficient amount to render the discharges which flow through them unsuitable for the growth of bacteria." (In a dressing not containing an antiseptic, although sterile, when it becomes soaked with discharge, the latter may remain sterile until it comes near the surface of the dressing, then bacteria will grow in it, and rapidly spread through it and reach the wound, unless the blood has in the meantime become so concentrated by drying that it is no longer a suitable cultivating medium).

A second point is the absence of antiseptic solutions during the operation, in which hands, instruments, etc., may be washed from time to time to ensure continued asepsis. . . . "The attempt to treat wounds without any antiseptic is a very unnecessary complication. In the first place it is ever so much more difficult to secure asepticity of a wound under such circumstances than if one takes advantage of antiseptics; and in the second place it requires a man who is especially skilled in bacteriological work to bear in mind the various loopholes which have to be guarded against in order to obtain a constant aseptic result. . . . "I confess that I can see no reason for this great dread of a drop of antiseptic material getting into a wound; I can only say that my own results and those of surgeons who use antiseptics judiciously are in every way as good as those obtained with the more elaborate aseptic precautions, in fact seeing that we are not troubled with sepsis or "stitch abscess" at all, I venture to assert that they are better, because they are more constant and dependable."

Rose and Carless ("Manual of Surgery") in contrast-

ing Aseptic and Antiseptic Surgery, state "It is only natural that we who have had the privilege of working with Lord Lister and have seen the excellent results following the intelligent use of antiseptics, should still cling to that line of practice which certainly can be carried out with more precision under all circumstances, both in private and Hospital, than the other plan, the objects of which may at any moment be defeated by some slight inadvertence or oversight. The theory of Asepsis is no doubt perfect, but its practical application is often difficult owing to the necessity of having sterilisers always at hand, a matter almost impossible in cases of emergency in private practice."

I have deemed it advisable to quote the opinions of these several eminent Surgeons on the subject of Aseptic and Antiseptic Surgery before proceeding to consider how far the principles can be applied in Veterinary Surgery. I shall endeavour to show that, although in the case of the dog it is possible to carry out perfect Aseptic principles under proper surroundings, it is a far different matter when we come to deal with Equine Surgery.

I suppose it will be generally admitted that in the treatment of wounds in horses there are certain important indications to be fulfilled.

(1) Measures should be adopted which are likely to ensure the healing of wounds in as short a time as possible, so that the animal can return to work.

(2) Steps should be taken to prevent serious complications such as Septicæmia, Pyæmia, Malignant (Edema, Erysipelas, Bacillary Necrosis, Tetanus, etc.

(3) Measures for the prevention of permanent blemishes are of importance, and in the case of wounds affecting the limbs, every effort should be made to avoid the occurrence of conditions likely to interfere with the working powers of the animal.

VETERINARY AND HUMAN SURGERY COMPARED.

Here it will be necessary to compare human Surgery and Veterinary Surgery as regards the treatment of wounds, both accidental and as the result of operations. The distinguishing features that stand out pre-eminently are the following: The human surgeon has the advantage of a well-equipped hospital with all modern conveniences, and a staff of trained nurses to carry out his instructions. He is supplied with every detail calculated to ensure surgical cleanliness, and to exert a favourable influence on the course of wounds. Moreover, in operation wounds Aseptic principles are carried out from start to finish by trained hands, and the patients contribute to favourable results by obeying the instructions of the Surgeon. By complete rest the healing of wounds is facilitated, and means can be adopted by which the affected part is rendered as free from movement as possible. In the case of accidental wounds, early treatment is carried out before Sepsis has had time to exert its effects, even though micro-organisms have gained an entrance.

The Veterinary Surgeon, on the other hand, has the most adverse circumstances to contend with in his endeavours to render wounds, whether surgical or accidental, aseptic, and to keep them in this condition. Even in the best equipped Veterinary Infirmary, so far as horses are concerned, it is extremely difficult to carry out Aseptic Surgery. No doubt by the use of iodine it is now possible to sterilise the skin, but there are other points to be considered.

Given an operating table, and a trained staff of assistants, so that the operator is only concerned with the operation, also that the operator or his assistants will carry out the subsequent dressings of the wound, then, indeed, Aseptic Surgery and healing by first intention are possible, provided that the technique is carried out so that the entry of micro-organisms into the wound is prevented.

But in ordinary practice a very different state of affairs exists; the patient is cast on a bed of straw, skilled assistants are not at hand, so that the operator has to attend to the casting, securing, etc., of the animal, by which means his hands become contaminated, and even the best directed attempts at asepsis are likely to be frustrated by the clumsy actions of the assistants. Again, unless the Practitioner is able to carry out the after treatment of the case, his primary endeavours will fail, as contamination of the wound is certain to occur.

With reference to accidental wounds, it is quite apparent that they become infected prior to professional assistance being sought. Contamination occurs at the time the injury is inflicted, and also from the treatment adopted by the owner or the attendant.

Consider also the surroundings in which horses are placed; even with the most scrupulous care and attention, it is impossible to render the best planned stall free from micro-organisms, and every act of the attendant seems calculated to secure infection of the wound. As for the average stable, both in town and country, and the crude methods of treatment adopted by the owners of animals, the wonder is that serious or fatal sequelæ do not occur far more frequently than is the case. For not only is the stall a veritable breeding ground for micro-organisms, but also, everything brought into contact with the wound is teeming with germs. Hands begrimed with dirt, filthy sponges, dirty stable buckets, soiled bandages, etc., are much in evidence, even the water for performing the perfunctory cleansing of the wound is anything but pure. How then do wounds heal under such circumstances? I think you will agree that the explanation is to be found in the natural powers of resistance possessed by the horse. If this vital resistance to the action of micro-organisms did not exist, we should meet with far more cases of Septicæmia, Pyæmia, etc., than we do at present.

No doubt of late years it is not unusual to find disinfectants in the hands of many owners of animals, and these agents are applied in concentrated solutions to wounds, with a total disregard for ordinary cleanliness. The result is that instead of promoting healing they retard it, as they exert a caustic and irritant action on the tissues; besides, the deeper portions of the wounds are not cleansed, and abound in micro-organisms.

A similar error is committed with reference to the disinfection of stable floors, the dirty surface is allowed to remain while disinfectants are scattered thereon.

Then while wounds are being dressed, it is not uncommon to find the dressings laid on the stable floor for convenience, and exposed to contamination from several sources.

MEASURES THAT CAN BE ADOPTED.

In order to fully grasp the importance of attention to surgical cleanliness in the treatment of wounds, it will be necessary to consider the *micro-organisms of wounds*, the *modes of infection*, and the means by which these can be overcome.

Micro-organisms. The most important are the Pyogenic cocci; these include Staphylococci and Streptococci.

Staphylococcus Pyogenes Aureus is found in acute abscesses and is responsible for the majority of suppurative inflammation, it is occasionally present in general pyæmia, and is often associated with other pyogenic organisms in suppurative processes. It is very resistant to many antiseptics, but is readily destroyed by solutions of the more powerful germicides; it is very widely distributed, and is found abundantly in the superficial layers of the skin and frequently beneath the finger nails in man. Experiments have demonstrated its power of producing suppuration, both locally

and internally, and it has been shown that if the vitality of the parts experimented on has been previously lowered, or the tissues damaged by chemical or mechanical means, infection occurred more certainly and readily.

Staphylococcus Pyogenes Albus is far less virulent in its action than *S. Aureus*.

Staphylococcus Pyogenes Citreus is only found in abscesses.

Streptococcus pyogenes is another very important organism. It is the causal agent in spreading Cellular inflammation, and of Pyæmia and Septicæmia in many instances; also of Septic metritis and Ulcerative endocarditis. One of its peculiarities is its tendency to invade the lymphatics and to induce lymphangitis and cellulitis; another is the capability of producing acute suppuration, sloughing of the tissues and inflammatory wound gangrene. Probably there are many varieties of Streptococci whose characters resemble each other so closely that it has not been possible to isolate them. Thus the *S. erysipelatis*, the causal agent of erysipelas resembles so closely both in appearance and cultural characters the *S. Pyogenes* that many authorities regard them as identical. The effects produced, however, are rather distinctive, and the *S. erysipelatis* must be regarded as an organism of serious importance in connection with the treatment of wounds.

The powers of resistance of the Streptococcus must be regarded as feeble when compared with those of the Staphylococci.

The Bacilli which are of importance in connection with wound infection, are, the Tetanus Bacillus, the Bacillus of Necrosis, the Bacillus of Malignant Oedema, and the Bacillus Coli Communis. Occasionally the Bacillus Tuberculosis, and the Bacillus Pyocyaneus, may infect wounds. Amongst other causal agents in wound infection we may mention the Botryomyces and the Actinomyces, also the Streptococcus of strangles.

It is apparent that the most important part of our duties in connection with the treatment of wounds is to prevent the entrance of these microbes as far as is possible, or, failing in this, to destroy their vitality or retard or prevent their development.

Modes of Infection:—By Air: Aerial infection was recognised even in pre-scientific periods. The Listerian principles and the carbolic spray were directed against this mode of infection, and the air was regarded as containing the germs of putrefaction, which were capable of setting up septic processes in wounds and their secretions. This view has been considerably modified in the present day. Experiments have demonstrated that the greater number of bacteria present in the air are non-pathogenic, that germs exist in the atmosphere only in the form of dry dust, that air perfectly freed from dust is harmless to wounds, and, when the air is kept still, wound infection rarely takes place through the atmosphere. But practically, we must admit the possibility of infection by air containing dust when we consider the surroundings of horses, the dust raised from a straw bed and during the process of cleaning the stall. Indeed some observers state that they have found cocci closely related to the pyogenic varieties and some actually belonging to that class, in atmosphere dust, especially where the air is moist.

Infection by water occurs unless this fluid is sterilised by boiling or a germicide added thereto. Ordinary water contains a large number of bacteria.

Other modes of infection include, infection from the skin of the patient, from the hands of the surgeon or those of his assistants, from instruments, sponges or their substitutes, ligatures and sutures, dressing materials, vessels or utensils, syringes, etc,

CIRCUMSTANCES PREDISPOSING TO INFECTION.

We may mention, excessive injury to the tissues during an operation, such as rough manipulation, bruising or tearing of the structures; by such means their vitality is lowered and their resistance is impaired so that the development of micro-organisms which may have gained entrance is thereby favoured. The number and virulence of the infecting organisms, the state of the health of the animal, and the environment, are also important in connection with this subject.

The Repair of wounds. Time will not permit me to enter into this question. As you are well aware, the mode of healing by Primary union or "union by first intention" takes place in simple incised wounds under favourable conditions, i.e., when there is a practical freedom from infection, when hæmorrhage has been arrested, and the surfaces are brought into apposition, and kept at rest. It is the mode of healing we all strive to bring about, but so seldom succeed in attaining—so far as the horse is concerned.

Union by Granulation and Cicatrisation is by far the more common method of healing in horses. Formerly there was an idea that the suppuration accompanying the process originated from the superficial layer of cells on the recent granulations, which were arrested in their development and converted into pus cells, being cast off in the discharge. We know now that the cause of the suppuration is the presence of micro-organisms, and that union by granulation can occur without suppuration, although that is not common in the horse.

Union under a scab. Repair takes place beneath a scab formed by a drying of the discharges. The scab is cast off spontaneously as soon as cicatrisation is completed underneath. It is a common mode of repair in wounds left to heal without any dressing.

OPERATION WOUNDS.

We now arrive at the practical application of the principles, based on a consideration of the points we have considered. Dealing first with operation wounds, in the case of healthy tissues in the normal animal, there are certain details which, if they do not result in bringing about healing by first intention, will at any rate assist in the process of repair, and prevent the occurrence of serious sequelæ.

I suppose everyone will agree that instruments are best sterilised by boiling for five minutes in water containing a teaspoonful of carbonate of soda to each pint. The addition of the soda raises the boiling point of water to 104° C, and besides, it prevents the formation of rust if the instruments are left in the solution for some time; when required for use they are placed in a sterilised tray containing a solution of carbolic acid 1 in 40. The water should be boiling before the instruments are placed therein, and the vessel in which they are boiled should have a closely fitting lid so that the water will boil at a uniform temperature. Some practitioners assert that instruments can be sterilised by placing them in a 5 per cent. solution of carbolic acid. But experiments have shown that instruments, even if left in this solution for hours, are not sterilised with any certainty. As regards sharp instruments, such as knives, scissors, and needles, which become blunt from the effects of boiling, some surgeons advise that the edges be protected with a piece of gauze or lint and state that blunting does not then occur. This is not my experience, and I prefer to immerse such instruments in undiluted carbolic acid for a time, and then place them in a 1 in 20 carbolic solution. This method is advised by Sir Watson Cheyne, and it is also valuable in case an instrument happens to fall on the ground during an operation and is immediately required, as

boiling takes five minutes to sterilise. Indeed this method is also useful in emergency operations, when facilities for boiling are not at hand, or an instrument is required for use at a moment's notice. Corrosive sublimate has a most destructive effect on metallic instruments, hence solutions of this agent are unsuitable for sterilisation purposes.

As regards the preparation of the patient's skin and the hands of the surgeon; it is not feasible to carry out that tedious technique of sterilisation adopted by human surgeons. Fortunately we have in Tincture of iodine an agent which renders the skin of the patient and the hands of the operator aseptic. Of course the operation area should first be shaved before the iodine is applied. Two applications are necessary, viz., one about 15 minutes prior to operation and the other immediately before operation. The employment of Iodine for this purpose is not recent; the agent has been used in various ways in surgery as long ago as 1880. Dr. Antonio Grossich in 1907 published his experiences of iodine in surgery; and since then the agent has been widely employed all over the world. The skin should not be washed before the iodine is applied.

Simple incised wounds are those which are most likely to heal by first intention, provided certain details receive attention.

Deeper wounds generally heal by granulation, but unfortunately in too many instances suppuration occurs in spite of all precaution. But there are degrees of infection depending on the number, character, and virulence of the infecting micro-organisms that gain entrance to the wound; hence the necessity for surgical cleanliness and the judicious employment of antiseptics.

There are two important points in connection with the subject which cannot be ignored. The first is, that in operations of all kinds the tissues should receive as little damage as possible. Neatness and dexterity in operating exert a marked influence on the healing of the resulting wounds. This is well exemplified in the operation of neurectomy, a skilful operator exposes the nerve and excises the desired portion with little or no damage to the surrounding tissues. On the other hand an inexperienced operator, in his efforts to expose the nerve, disorganizes the tissues to a considerable extent. In the former case the wound heals by first intention, in the latter, even with all attempts at asepsis and antiseptics, healing occurs by granulation, often accompanied by suppuration.

Drainage is the next point. Now in all wounds of any extent, an exudation of serum occurs, this is generally referred to as the "secretions of the wound." Such must not be allowed to accumulate in spaces in the wound, and proper drainage is necessary. Accumulations of serum not only cause tension in the wound, but also favour the growth of micro-organisms.

The various details in connection with aseptic wounds need not occupy us further; for the reasons already given it is very difficult to obtain healing by first intention in the case of horses; that it is possible even in the major operations has been demonstrated by operators who have had special opportunities for carrying out the technique. But I have yet to learn that aseptic surgery as conducted by human surgeons, can be carried out in the ordinary operations by the general practitioner. Take even the latest surgical feat—the new operation for "roaring," where aseptic precautions are rigidly carried out before and during the operation, and what is the result? Certainly not healing by first intention in any instance, and more often than otherwise the wound is septic, and frequently fetid. Such a condition would be regarded as anything but creditable in human laryngeal surgery—but then the circumstances are different.

There are some enthusiasts who give details of aseptic methods of castration; needless to remark they do not operate on many colts, and have very little idea of the

conditions and environment of these animals in the country. My experience, in the attempt I made at aseptic castration carried out by means of ligature, was that no suppuration or swelling occurred but the animal died of septicæmia and septic peritonitis: had suppuration and swelling occurred probably the case would not have succumbed. At the same time I believe in all possible attention to surgical cleanliness and to antiseptics during the operation of castration, although I know full well that these measures will be frustrated in their results by the owner or attendant of the animal. How infection occurs in castration wounds is so obvious that I need not refer to the subject. When operation wounds suppurate or become septic they are in the same category as accidental wounds so far as treatment is concerned.

Every accidental wound may be assumed to be infected, to a greater or less extent.

In carrying out treatment, there are certain important procedures necessary, which I shall refer to under the following heads:

(1) *The arrest of Hemorrhage if present*: this constitutes a subject in itself.

(2) *The cleansing and disinfecting of the wound.* This is carried out by careful washing out with an antiseptic solution. As to the agent selected, it is largely a question of choice. The large number of reliable germicides that are now on the market render a selection comparatively easy. Carbolic acid is still largely employed for the purpose, although there is considerable difference of opinion as regards its germicidal power. Whatever agent is used, a thorough cleansing of the wound is essential. Unfortunately we do not often get the chance of first dressing a wound, as the owner or attendant attempts the process on the occurrence of the accident, and far too frequently introduces infection. In the case of a deep punctured wound, in which infection is probably deep-seated and the external opening small in size, it is necessary to carefully enlarge the latter so as to carry out thorough irrigation.

(3) *The removal of foreign bodies.* This is a procedure that requires special attention. Wounds in hunters frequently contain foreign bodies such as thorns, portions of gravel, etc., and a careful search is necessary in order to discover their presence; if they are overlooked serious trouble will occur afterwards.

(4) *Drainage.*—Efficient drainage is of the greatest importance. This is well exemplified in the progress made in punctured wounds extending in an upward direction, and in those extending downwards. Without proper drainage all other means will fail. To carry this out efficiently in the case of extensive wounds is not always an easy matter, but on it depends success or failure. Suitable openings must be made at dependent parts, and the selection of drainage materials will depend on circumstances. If gauze drainage be employed, care should be taken that the gauze does not act as a plug and prevent the escape of discharge. In extensive wounds india-rubber drainage tubes are to be preferred. The old-fashioned Seton must be condemned—it causes irritation and increases suppuration.

(5) *Sutures.*—Careful consideration is necessary in order to decide as to the advisability of employing sutures or otherwise. The frequency with which extensive wounds involving the muscular tissues (such as occur in the region of the hip) suppurate, and the sutures give way, has led some practitioners to leave such wounds open. No doubt in the case of a "squealing" kicking mare, or of an unbroken colt, we all have a tendency at times to avoid the use of sutures, and it is surprising to find how readily such wounds heal. Still there is no doubt that less blemish is left if the edges of such wounds are brought together by sutures, at any rate for a time, provided thorough cleansing is carried out and proper drainage is provided. In extensive wounds of this kind occurring in vicious animals, I always cast

them in order to carry out the procedure properly. The suture material should be soft in texture, but strong; hard material is very likely to cut through the skin. In clean-cut wounds sutures should always be employed. It is hardly necessary to remark that in punctured wounds, or deep wounds of any kind, and in the case of torn or lacerated wounds with much destruction of tissue, or in suppurating or septic wounds, sutures are contraindicated.

Experience has taught me that wounds in the region of the head are best treated without sutures, unless such cases are in an Infirmary under the immediate care of the practitioner, so that the early indications of septic infection may be observed. Under other conditions there is a tendency to the occurrence of Erysipelas or allied complications. I now paint such wounds with tincture of iodine and find the best results therefrom. This may be considered as an irritating agent, but the results justify its employment. There are instances of suppurating wounds in which suturing should be attempted in order to avoid permanent blemish. Some time ago I saw a case in a foal in which a wound extended from the commissure of the lips up the cheek, exposing the first two molar teeth. The accident occurred about 10 days previously, and two attempts at suturing had been made, but they were unsuccessful. The wound was suppurating freely and granulations had formed on each of the edges, but there were no evidences of union. My first attempt was also unsuccessful. I then cast the animal again, removed all granulations with a sharp scissors, freshened the edges of the skin and mucous membrane, removed all debris of food, washed the parts thoroughly with peroxide of hydrogen, inserted a deep layer of sutures so as to bring the edges of the mucous membrane together, the sutures being composed of soft silk, soaked in peroxide of hydrogen, a superficial row of sutures were inserted in the skin, the wound was again cleansed with the antiseptic and then painted over with collodion. The foal was removed from the dam and fed from a pail, and no further dressings ordered except the application of compound tincture of benzoin to the edges of the wound after a few days. A few of the sutures gave way, but healing progressed satisfactorily and perfect union resulted.

(6) *Surgical Dressings.*—As a general rule, wounds should be covered with suitable surgical dressings whenever possible, at any rate in the earlier stages. Whether these dressings should be moist or dry must depend on circumstances. In suppurating wounds I find the best dressing, in cases where expense is no object, is double cyanide gauze soaked in solution of peroxide of hydrogen (1 part of the 10 volume solution to 3 of water), the gauze is then enveloped with a thick layer of cotton wool and a bandage.

As to the frequency of dressing, this will depend on the amount of discharge; when the latter soaks through the dressing it is an indication for renewal. If this be neglected the discharged become putrid and a mixed infection is likely to occur. For country practice a reliable and cheap antiseptic is Huxley's Liquor Cresolis, in 2 per cent. solution. As the discharge lessens the dressing need not be changed sooner than the third day, and later on a dry antiseptic dressing may take the place of the moist one—such as boric acid with zinc oxide.

In punctured wounds, after drainage has been provided for, I find it is a good plan to plug the wound with gauze soaked in peroxide of hydrogen; this is renewed as often as circumstances require.

In country practice it is useless to expect the owner or attendant to apply dressings properly, hence unless there are reasons to the contrary, wounds do best when left open, and simply cleansed with an antiseptic solution and painted with compound tincture of benzoin. This latter agent fell into disuse for some time, but in my

experience it is a most useful wound dressing for country cases, where as little handling as possible of the wound is an important matter. Carbolic oil, which at one time was so popular a dressing, is now known to be *absolutely inert as a germicide*.

In hunters, deep punctured wounds of the front of the hind fetlock, due to sharp stones, are of very frequent occurrence. The bursa of the tendon may or may not be opened, but acute inflammation rapidly develops and marked pain is present. Attempts to heal such wounds quickly do not prove successful, as infection is deeply situated. In my experience the best dressing is one of the modern substitutes for poultices, which are composed of Kaolin, Glycerine, and antiseptic agents, applied hot and changed daily. When acute symptoms have subsided the ordinary dressings may be applied.

Wounds of the sheaths of the flexor tendons are often serious, in consequence of the infection extending upwards and downwards. Free drainage should be provided early, and rigid attention to antiseptics is necessary.

In all wounds in the region of the limbs there is a tendency to the formation of exuberant granulations, and these require early attention in order to avoid permanent blemishes resulting. I find that the judicious application of finely powdered sulphate of copper is the most reliable treatment in these cases—old-fashioned no doubt, but efficient for the purpose required. Wounds of the knee involving the extensor tendons in the vicinity of this joint are not uncommonly followed by Fibrous Ankylosis, accelerated no doubt by keeping the horse from lying down. When such a complication occurs the animal should be cast and chloroformed and the joint forcibly flexed, otherwise the horse will be useless.

Wounds in the feet due to picked-up nails I shall not consider—they would form a separate subject for a paper. But in hunters, wounds are not uncommon in this region as the result of portions of furze (gorse) branches entering the foot in the vicinity of the frog. Sharp portions of flint not uncommonly enter and extend deeply into the sole. The detection of such foreign bodies is not always an easy matter, and requires a careful examination of the foot. I believe the best treatment, after the removal of the foreign body and the proper enlargement of the wound, is to apply pure carbolic acid or Lysol, and a cataplasm composed of Kaolin and Glycerine.

In my experience, the most dangerous class of wounds are those due to punctures from shafts, such as result from collisions. The difficulty in obtaining drainage is very considerable, especially when the wound occurs in the region of the hind quarter. But proper drainage must be secured at all costs, otherwise treatment will fail and septicæmia will result. If necessary the animal should be cast in order to carry out the surgical procedure; after treatment will consist in copious irrigation with antiseptic solutions carried out by means of a Winton's syringe provided with a gum-elastic top. Where expense is not objected to, the wound should be plugged with double cyanide gauze soaked in hydrogen peroxide solution, the irrigation and dressing being carried out daily.

Time will not permit me to deal with the question of open joints—it would require a special paper. But I cannot omit drawing attention to the dangerous character of punctured wounds in the fore-arm, which are not uncommonly followed by purulent arthritis of the elbow joint. The septic inflammation extends along the sheaths of the tendons, and, as you are aware, these tendons support directly the synovial membrane of the elbow joint. Hence wounds of this region should be drained as early as possible by a free dependent opening.

There are many other practical points deserving of notice in connection with the treatment of wounds, but the paper has already exceeded the extent I had intended,

and I fear also that it has over-taxed your patience. The practical outcome of a consideration of the subject appears to be that although we can never hope to practise aseptic surgery in the strict sense of the term, we can at least carry out antiseptic principles as far as is possible under the very unfavourable conditions that surround us.

Improvements in the results obtained are more likely to follow strict attention to surgical cleanliness and proper drainage of wounds than to care in the selection of agents we employ as dressings. Far too frequently there is a tendency to attribute successful results to the use of the special antiseptic employed. But after twenty-five years of "playing the game," and seeing it played by others, I cannot believe that amongst the host of agents that are introduced yearly, one possesses any special virtues over another so far as the healing of wounds is concerned.

In conclusion, I think the practical deduction to be drawn is—that every attempt should be made to exclude infection from wounds whenever this is possible, and, in the case of wounds already infected, to retard the growth and development of micro-organisms, by the judicious employment of antiseptics. Whether in the case of operation or of accidental wounds, it is quite apparent that in ordinary practice, we cannot afford to dispense with antiseptics, and attempts to do so are likely to be followed by disaster.

An interesting discussion ensued, and the meeting terminated with a hearty vote of thanks to the essayist.

L. W. WYNN LLOYD, Hon. Sec.

Where Diseased Meat Comes From.

While the butcher is saddled with all the moral and financial responsibility of unsound or diseased meat, he is not really the producer of it; consequently someone else ought to share the odium with him. Who is that other person? Let the *Farmer and Stockbreeder* tell us. On 26th February last, in its "Replies to Veterinary Queries," we find the following:—

COUGHING HEIFER (S.W.M.)—I should fear it is caused by tubercles in the lungs or on the sides of the chest. Hadn't you better fat her off?

Nothing could be plainer than this. Mr. Field, M.P., having had his attention drawn to this reply, immediately wrote to the Local Government Board and the Board of Agriculture, pointing out that the purchase of tuberculous animals rendered butchers liable to fine and imprisonment. He also asked what these Departments, jointly and severally, had done to prevent the marketing and sale of diseased animals, and, further, what steps, "if any," had been taken to make it known to farmers and members of the veterinary profession that to fatten off tuberculous beasts "was fraudulently criminal." Up to present writing, beyond the usual bald official acknowledgment, Mr. Field has got no answer. Having regard to the attention given to meat inspection at the present moment, it will be interesting to learn the official view as to the production of diseased meat, and the responsibility of the breeders and feeders of same to the public and to the trader.—*The Meat Trades' Journal*.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.		Parasitic Mange.	Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.			Out-breaks	Slaughtered.*
IRELAND. Week ended Mar. 30	...	...	...	...	...	...	...	7	8	87
Corresponding Week in {	1911 ...	...	...	...	...	...	4	5	3	9
	1910 ...	...	...	...	...	...	1	11	...	...
	1909 ...	1	1	...	...	...	2	30	...	...
Total for 13 weeks, 1912	...	1	1	...	...	...	27	208	52	413
Corresponding period in {	1911 ...	3	3	...	...	1	33	202	35	666
	1910 ...	4	6	...	...	...	23	254	11	297
	1909 ...	2	2	...	...	...	30	227	8	71

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 1, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

PLANT POISONS.

By JOSEPH BURTT-DAVY, F.L.S., F.R.G.S.
Government Botanist (Transvaal).

The losses among stock in South Africa due to poisonous plants have not received that attention which the subject deserves, owing to the fact that hitherto efforts have been largely concentrated upon tick-borne and other diseases due to parasites. Now that these parasitic diseases are in a measure under control, stock farmers are turning their attention to other sources of loss among their flocks and herds such as lack of winter feed and direct loss from eating poisonous plants. The recent ravages of "gal-lamziekte" in Bechuanaland and the adjacent districts of the Transvaal and Orange Free

State, a disease which appears to be caused by some obscure poisonous plant, have brought the subject prominently before the public.

Many farmers have expressed the opinion that gal-lamziekte is caused by some poisonous plant. Others have thought this improbable, or even impossible, because of certain peculiarities connected with the incidence of the disease. A study of plant poisoning in different parts of the world explains some of these peculiarities, which are quite compatible with the known characteristics of poisoning by certain plants, as can be seen from the following notes:—

Season of the Year.—With some poisonous plants trouble is experienced mainly at certain seasons of the year; this is particularly the case with the tulips (species of *Homeria* and *Moraea*) and slangkop (*Urginea Burkei*)

and usually also with Chailletia or Gift-blaar (*Dichapetalum cymosum*). In these cases the reason may be traced to the fact that the plants in question make their new growth of foliage before the rains begin and therefore at a time when green feed is scarce and stock are suffering from a prolonged diet of dry food. They pick up the poisonous foliage in their eagerness for something green, either in ignorance of its poisonous character or accidentally among the short grass just springing. Such plants are usually avoided by animals accustomed to them. But with other poisonous plants the case is sometimes quite different.

In veterinary practice it is commonly recognized that a plant may be harmful at one time and not at another. It is well known that vegetable drugs differ in potency at different seasons of the year, the difference being, perhaps, correlated with the stage of growth of the plant. Some are only official if gathered at a particular season or stage of development. That a similar difference may apply to the toxicity of some plants is shown by Melter (1899), who records that his horse ate 500 lb. of dried hay of *Passiflora incarnata* without any injurious effect; it had been gathered in July when the plant had passed the flowering stage. In the following March, eight months later, the horse ate only 25 lb. of the dried plant, which had been gathered for medicinal purposes when in flower (the condition in which it is most potent); this time the result was fatal.

The Condition and Age of a Plant may affect its Toxic Properties.—The poisonous principle of some plants (e.g. *Conium maculatum*) is volatile, and the dried material may be less dangerous than the fresh. Hay made from the sleepy grass of New Mexico (*Stipa Vaseyi*) does not appear to possess any poisonous qualities, although in the fresh state the plant has a narcotic effect on horses (Scribner, 1898). The young plants of *Lotus arabicus* of northern Africa are highly poisonous to horses, sheep, and goats, according to Dunstan and Henry, but the old, mature plants are freely used as a fodder by the natives. Feeding experiments with *Crotalaria burkeana* produced no effect when the plants were partially dried. This factor renders the investigation of the poisonous principle of some plants more difficult, as they lose a large part of the poison on being gathered or prepared for research.

Some parts of certain plants are more poisonous than others. The fruits of the Hemlock (*Conium maculatum*) and the seeds of Stramonium (*Datura stramonium*), of species of Lathyrus, and of other plants, contain a larger proportion of poison than the foliage.

The relative proportion of poison contained probably differs in individuals of the same species, just as there is a difference in the flavour or sweetness of two fruits from the same tree, in the amount of latex yielded by different rubber-producing trees of the same species, and in the amount and quality of opium produced by the Opium-poppy under varying conditions of soil and climate.

Some kinds of poisonous plants are much more dangerous than others, perhaps because more often eaten, or because the poisonous substance contained is more virulent, or because one kind contains a larger proportion than another. Therefore some species act on the system with great rapidity, while the action of others is relatively slow.

Small doses of some poisons may be taken with beneficial effect, when large doses may be fatal. Some of the most deadly poisons (e.g. Belladonna, Strychnine, Aconite) are valuable drugs when taken in official doses. It is evident, therefore, that a plant is not necessarily harmless because stock are occasionally seen to eat of it without injurious effect.

The toxic properties of plants are not of course due in all cases to the same chemical substance. It is well known that several toxic compounds are present in

various plants, which differ in their effect on the animal system, e.g. the Alkaloids, nicotine, morphine, atropine, hyoscyamine, strychnine, and veratrine; the Glucosides, lotusine, coronilline, and amygdaline; the Gluco-alkaloid solanine; and the Acids aronic and hydrocyanic.

Sometimes the same poison is present in more than one species or genus of plants, e.g. hyoscyamine, which is characteristic of the Henbane (*Hyoscyamus niger*) and atropine, characteristic of the Deadly nightshade (*Atropa Belladonna*), these are both present in the Stramonium (*Datura Stramonium*); solanine occurs alike in the Black nightshade (*Solanum nigrum*), the Jerusalem cherry (*Solanum pseudocapsicum*), the tomato (*Lycopersicum esculentum*), and in the white sprouts and unripe tubers of the potato (*Solanum tuberosum*) when grown near the light.

Similar toxic properties sometimes occur in many plants of the same family.—The presence of poisonous alkaloids, narcotics, acids or acid compounds is often common to and characteristic of many species of a genus and even of a family; thus Hyoscyamine, Atropa, Datura, and Lycopersicum, referred to above, all belong to one plant-family, the Solanaceae. On this account we are able to treat some plant families as more dangerous than others; thus the Ranunculaceae are often acrid and poisonous; the Papaveraceae, the tribe Cichoriaceae of the Compositae, and the Solanaceae are apt to be narcotic; the family Loganiaceae produces some of the most dangerous vegetable drugs known to us. On the other hand, some large families of plants contain no species known to be poisonous, e.g. the Cruciferae, etc.

Not all kinds of animals equally affected.—Some kinds of animals are poisoned by plants which are harmless to other kinds, e.g. Darnel seed is said to be poisonous to man, dogs, horses, and sheep, but to be wholly innocuous to cows, pigs, and ducks (Wood, Remington, and Sadtler). The well-known Poison ivy, *Rhus toxicodendron*, of the Atlantic coast of North America, and the Poison-oak, *Rhus diversiloba*, of the Pacific coast, are very poisonous to man, but are greedily eaten in quantity by horses with no ill-effect. Morris (1896) states that *Leucaena glauca* is greedily eaten by cattle, sheep, and goats without ill effect, though very injurious to horses, mules, donkeys, and pigs. Dr. Watkins Pitchford suggests that probably all plants which are poisonous to animals are also poisonous to man.

Not all individuals equally susceptible—Nor are all individuals of the same animal species equally susceptible to certain poisons. In California some people are immune against poisoning by *Rhus diversiloba*; most persons are only slightly inconvenienced, some are made seriously ill, and a few have been killed by it. Chesnut (1898) reports that *Rhus toxicodendron*, of the eastern United States, acts in the same way, and he further states that this variability is not confined to poisons acting externally.

Susceptibility may be increased by ill-health or poverty of condition.—The condition, age, or state of health of the animal sometimes has an influence on its susceptibility to certain poisons, or to the quantity which may be consumed without serious effect. Wilcox (1901) reports that sapotoxin, a poisonous substance found in many plants, is far more injurious when the alimentary tract is ulcerated than when it is healthy.

Acquired craving.—In the case of some poisonous plants animals which taste them develop a morbid craving which, when once acquired, can scarcely be overcome. This is true of *Astragalus Hornii* and other "Loco-weeds" of the Western United States. Maiden (1901) reports a similar result from eating the Australian "Indigo Plant" *Swainsona galegifolia*. Chesnut (1898) finds that in the Southern United States stock usually avoid *Helenium autumnale*, but sometimes develop a taste for the plant and are killed quickly by eating it in

large quantity. The seeds of the common Boer pumpkin of South Africa, if eaten freely by poultry or ostriches, are said to make the birds "crazy" and to produce temporary paralysis; it is also said that "once they acquire the bad habit of eating the pips it is difficult to break them of it." This craving may be developed to such an extent that animals ignore their proper food and, instead of grazing quietly, spend their time hunting over the camps in search of individuals of the particular plant they have learned to like, even digging up the roots to satisfy their craving, with the result that they become emaciated from lack of sufficient food. This taste is an acquired one, and does not necessarily affect all the animals in a herd or flock. Certain animals on one side of the fence may acquire it, while those on the other side may not. It is well known that animals have their particular friendships and that some of them generally graze together, especially if they belong to the same family. If one member of such a grazing group acquires the taste for a certain poisonous plant it is likely that the other members will learn to eat it also.

These facts might explain the "spread" of a disease caused by poisoning, to farms which were hitherto supposed to be clean. Farmers who have a herd affected with a disease which is not contagious sometimes move to supposed clean farms, either hiring the grazing or selling the herds outright. If some of these animals have acquired the taste for the particular plant they will hunt for it, and if they find it in sufficient quantity will eat of it and become affected; in this way the disease may "spread."

This abnormal craving may be acquired through scarcity of feed in winter or early spring, which causes the animals to eat anything green. If they are moved to a farm where the feed has not been eaten down closely they are likely to find enough of their normal food to make it unnecessary to resort to the dangerous species, and so the losses may be checked for a certain time, only to recommence, however, when the veld is eaten down. In such cases an obvious method of treatment is the provision of an adequate supply of palatable winter feed such as Teff hay. This would act as a preventive, but not as a remedy for cases where the poison has already been taken into the system.

A distaste may also be acquired.—It is commonly stated by men who are much with stock in South Africa that animals learn to know and to avoid poisonous plants. Certain it is that stock brought up on a farm where Tulp abounds will feed among it constantly and with impunity, often without the loss of a single head, while strange animals, from places where it does not grow, will eat of it and die if not carefully watched and treated. Experiments carried out by our Veterinary Division tend to confirm this view; G. V. S. Dunphy (1906) notes that sheep and goats which had once been poisoned with *Dichapetalum* and had recovered from the effects seemed to show a great dislike for the leaves. In a test with Yellow Tulp (*Homeria pallida*) Doctor Theiler was unable to induce a hungry ox which had been starved for thirty-six hours to eat Tulp even when chopped and well mixed with hay.

Small amounts of poison may sometimes be taken with impunity. It does not necessarily follow that a plant is harmless because stock are occasionally seen to eat of it without injurious effect, for large doses may be fatal. Some deadly poisons (e.g. Strychnine, Belladonna, and Aconite) are valuable drugs when taken in official doses.

Many stock farmers of the Transvaal are firmly convinced that the converse is also true, and are prone to give decoctions of Tulp or Gift-blaar to render their cattle and horses immune.

Classification.—Vegetable poisons may be grouped as follows, if we adopt Kobert's classification of poisonous substances:—

1. Irritants which cause gross anatomical changes of the organs, e.g. croton oil and savin.
2. Blood poisons—
 - (a) which interfere with the circulation in a purely physical manner, e.g. ricin and abrin;
 - (b) which dissolve the red corpuscles, e.g. the saponins;
 - (c) which, with or without primary solution of the red blood corpuscles, produce in the blood met-haemoglobin, e.g. picric acid;
 - (d) which have a peculiar action on the colouring matter of the blood or on its decomposition products, e.g. hydric cyanid.
3. Poisons which kill without the production of gross anatomical change—
 - (a) which affect the cerebro-spinal system, e.g. strychnine, morphine, coniin, curarine, atropine, strophine, aconitine, etc.;
 - (b) which affect the heart, e.g. digitalin, helleborin, muscarine.

Parasitic Mange—Farmer Fined.

At Eddisbury Petty Sessions on Monday, before Captain Wynne Griffith and other magistrates, Thomas Henry Barnard, of the Rectory Farm, Delamere (Northwich, Cheshire), was summoned under the Diseases of Animals Act, 1894, for failing to notify a case of parasitic mange on his premises, as required by the Parasitic Mange Order, 1911, Mr. J. Holland, solicitor, Brinsford, defended.

Constable Barber stated that on February 25th he was on duty in Chester Road, Delamere, when he noticed an aged brown mare in the defendant's orchard. He could see that patches of hair were missing from the neck and back, and the animal appeared to be uneasy. He interviewed the defendant, who admitted that the animal belonged to him. Asked how long the horse had been in that condition, he said a fortnight. He also stated that the mare was lousey, and had a little itch, and the hair had come off with her rubbing against the trees. Witness accompanied him to the orchard, and, on examining the mare, he found the mare in a shocking condition. It was a mass of scab, and he noticed several patches on the back and neck which were bleeding. There was scarcely any hair on the back and neck. He told the defendant that in his opinion the mare was suffering from parasitic mange, and he replied, "I see by the papers that they have got it very bad around Manchester, but she has not got it. It is lice and old age that is the matter with her." He told the defendant that he had seen many cases of parasitic mange, and he was strongly of opinion that that was a very bad case. However, witness told him to keep the animal isolated, and he would report it to his sergeant. On March 1st witness again visited the premises in company with Sergeant Turner. The latter asked defendant why he had not destroyed the mare as promised, and he replied that he did not intend to, because Mr. Bibbey, veterinary surgeon, of Winsford, had told him that the animal had not got the mange, but that it was affected with lice and old age. Acting under Mr. Bibbey's instructions he gave the mare a dressing of Australian sheep dip. On examination he found the animal had had a very severe dressing, and on the point of the near shoulder he saw five or six marks where the hair had been cut, apparently by scissors. In his opinion that was the part of the animal which was least affected by the mange. Defendant was asked who had cut the hair, and he replied that Mr. Bibbey had done it for the purpose of making an examination.

Mr. Holland: Do you think it is easy to detect mange?—I have seen several cases.

Sergeant Turner stated that on February 25th he called on Mr. Price, the local veterinary inspector, and accompanied him on the following day to the Rectory Farm. Mr. Price examined the mare, which was in a shocking condition, but he did not put his hand on the animal, because defendant said, "Don't you touch her, keep away or she will kick you." He asked the defendant if the mare had been off the premises and defendant replied that she had been to the Northwich Market on the previous Friday. He then told defendant that it was the worst case of mange he had seen. He corroborated the evidence of Constable Barber as to the visits to the farm on March 1st and 2nd, and added that on the 16th he went there again with the chief veterinary inspector, Mr. Laithwood.

Robert Price, veterinary surgeon, Tarvin, stated that he had been in practice 32 years, and for 27 years had been inspector under the county. On Monday, Feb. 26th, he examined the mare in question, and found she was badly affected with mange on the head, withers and back; it was a pronounced case. On March 2nd he took some of the scab for the purpose of microscopic examination, and found dead parasites.

Cross-examined: He condemned the mare before he found the parasites; he had quite sufficient evidence without. The disease was a very contagious one, and it was possible for an animal to have mange and lice together.

Jas. Laithwood, chief veterinary inspector for the county, stated that he examined the defendant's brown mare on March 6th, and he found it to have all the symptoms of mange. Accordingly he took scurf from various parts of the animal's body, and under the microscope he discovered no live parasites, but shrivelled-up dead ones; also what he concluded were eggs. He put a quantity in an incubator to hatch out, and on the fourth day he discovered young lice as well as mange parasites had been hatched out.

The magistrates with the aid of a microscope inspected the hatched-out lice and parasites.

In cross-examination, Mr. Laithwood said he would have been surprised to find any parasites where the hair was cut off by Mr. Bibbey. He admitted that if the animal was attacked with lice she might rub herself raw. It was safer not to come to a conclusion about parasitic mange before making a microscopic examination.

DEFENCE.

For the defence, Mr. Holland urged that the mange order was of recent date, and therefore the defendant might be excused if he was not fully cognisant with it. One could also understand the police being a bit keen on it. In the Act it was stated "where the owner or person charged with an offence against the Act, he shall be presumed to have known of the existence of the disease." The contention was that the animal was affected with lice, owing to the fact that the defendant could not curry-comb her, with the result that she became dirty. He would point out that Mr. Bibbey was the only veterinary surgeon who saw the mare before the dressing was carried out.

Thomas Henry Barnard gave evidence to the effect that the mare was 30 years of age. When the constable came he told him the animal was affected with lice, but the officer said it was the mange, and ordered him to isolate her. If he had suspected mange he would certainly not have put her with the grey mare. The latter was perfectly clean. It was in consequence of Mr. Bibbey's advice that he did not have the animal destroyed.

Herbert Bibbey, veterinary surgeon, Winsford, stated that he examined the mare with his fingers first, and found an even surface, but she was swarming with lice. In his opinion the presence of the lice had caused the mare to get in the condition in which she was. Some-

times lice and mange parasites were found together, but not as a rule. He examined the grey mare and found no trace of disease or lice. He took scrapings from various parts of the brown mare, and subjected them to microscopical examination, but found nothing except the eggs of lice. In his opinion if the mare had been suffering from mange, and had been worked with another animal for two or three weeks that other animal would have become affected. The absence of mange in the grey mare confirmed his opinion that the brown mare was not affected. Five days after she had been dressed the mare improved, new hair appeared on the bare patches, and the irritation had subsided. A week later the condition of the mare was still further improved.—In reply to the Magistrates' Clerk, witness said he could not speak as to the eggs, because he did not incubate them.

Albert H. Darwell, veterinary surgeon, Northwich, stated that he had had 30 years' experience as inspector under the Diseases of Animals Act. He spoke to examining the defendant's brown mare on March 2, and she was suffering from a skin disease of a non-contagious character. He admitted that the mange was highly contagious. The grey mare had two or three lice upon her, but there was no sign of any skin disease.

The magistrates retired to consider their verdict, and after an absence of upwards of half-an-hour, the Chairman said the magistrates considered the mare was suffering from parasitic mange. They also were of the opinion that the defendant thought the animal was infected with lice; at the same time the Bench were of the opinion that the defendant showed gross negligence in not treating the mare himself or seeking advice. Under these circumstances he would be fined 20s. including costs.—*The Chronicle*.

Parasitic Mange, or Surfeit?

At Steyning, on Monday, April 1, Charles Huggett of Laybrook Farm, Thakeham, was charged with not having notified the police of two cases of parasitic mange from which it was alleged two of his horses were suffering, as required by the Parasitic Mange Act of 1911. According to the prosecution, when a police constable saw the horses on March 21 he was told by the defendant that they had had the complaint for about a fortnight and that he had done the best he could for it. "Try not to make it any harder than you can help for me," he was alleged to have said to the constable, but before the Bench he denied making use of any such remark. Questioned by Huggett, the constable admitted that he did not remember him using the word "parasitic," but he was quite sure he said he had been treating them for mange.

When Supt. W. Fowler called at the farm, he found a preparation in the stable for treating horses with mange, and the stable itself had been partly disinfected.

Mr. J. Bolton, a Steyning veterinary surgeon, who was with him, had no doubt that the horses—which it was said were in a very bad condition, very poor, and very old—were suffering from parasitic mange. He showed some parasitic hair under a microscope, which led Mr. Powell Breach, one of the Magistrates, to ask whether it was possible to know that a horse had parasitic mange without making a microscopic examination. "In this case the animals were bad enough for any one to see they had the mange," replied the witness.

While admitting that he was unaware parasitic mange had to be notified, defendant said he believed the horses were suffering from surfeit—a very common disorder at this time of the year.

Mr. J. Castledine, a Partridge Green veterinary surgeon, who had been called in, told the Bench he formed the opinion it was a very severe case of surfeit. He

admitted, however, that the microscope revealed a parasite.

The Bench, while remarking that the police could not do otherwise than bring the case forward, thought perhaps the public did not know the Act so well as they did, and so they wished to deal as lightly as possible with the defendant. No conviction would be registered, but he would have to pay 10s. costs.—*West Sussex Gazette*.

The Van Horse Parade.

The ninth annual Parade of the London Van Horse Parade Society took place in Regent's Park on Easter Monday, in weather which, though cold and windy, was almost uninterruptedly fine. Judging began at 10 a.m. and went on till nearly lunch time; after lunch the long "march past," with the customary attendant presentation of prizes, took place.

There was a good concourse of spectators; and, for the first time in its history, the Parade was honoured by the presence of the Lord Mayor of London, who presided at the Parade Luncheon and remained to witness the march past afterwards. He was accompanied by the Lady Mayoress, who distributed the prizes.

The presence of the Mayor and Mayoress was an indication of the growing recognition of the Parade; the number and quality of the animals shown testified to the constant increase of its popularity amongst owners and carmen. The entry was a record one for the Society; 613 drivers of singles or pairs entered and 746 horses were exhibited. The first Parade in 1904 had only 132 entries; and, it may be added, every successive year since then has shown an increase of entry over the preceding one.

It was generally agreed also that the present Parade showed a marked improvement in the standard of the horses. A few were of lighter class than the typical vanner, but the general quality and condition was very high indeed. So evidently thought the judges, for a very large proportion of the competitors obtained first-class awards. One striking feature was the special prizes, 66 in number, given to drivers for the length of their unbroken service with one firm. Two veteran drivers each exceeded 50 years' unbroken service; seven others had records of between 40 and 50 years; sixteen of between 30 and 40, and forty of between 20 and 30.

The four pairs of judges were Sir Gilbert Greenall, with Col. the Hon. Charles Byng, Sir Henry Hoare, Bt., with the Hon. A. E. Parker, Mr. Richard Budgett with Mr. R. N. Stollery, and Mr. A. C. Church with Mr. H. Horton. The four veterinary inspectors were Messrs. J. W. Edwards, F. W. Stanley, H. Lomas, and E. Alfred West. These officers, with the support of a strong Committee and a dozen energetic stewards, succeeded in making the Society's ninth Parade the most attractive one in its history.

Army Horses.

A memorandum of the Secretary of State for War relating to the Army Estimates for 1912-13, which was issued on the 27th February as a Parliamentary Paper [Cd. 6064] contains the following:—

"Recent cavalry manœuvres have brought prominently to notice the large proportion of the horses in the ranks of the cavalry regiments at home which would not be fit, on the outbreak of war, for the very hard work which would at once be demanded of them. A thorough investigation was made during 1911 into the system of horsing the cavalry, as regards peace establishments, mode of supply of remounts and methods of training. As a result it has been found necessary to make a further increase in the number of horses maintained in the

regiments in peace, and it is in contemplation to introduce a system of collecting remounts and sending each regiment its annual supply in one batch, to be then subjected to a course of systematic and progressive training, instead of sending horses in small numbers throughout the year. Under the new system, when fully established, no horse will be subjected to the strain of manœuvres or put into the ranks on mobilization for war until he has been thoroughly hardened in this way and has reached the age of six years. It is confidently expected that the cost of the new scheme will be to a large extent covered by the saving made on wastage, and the longer average service obtained from the horses.

In pursuance of this scheme 20 horses are added to the peace establishment of each line regiment at home.

I mentioned in my memorandum on the Estimates of the current year that County Associations had encountered various difficulties in the task of organising the supply of horses to the Regular and Territorial Forces on and after mobilisation. After full investigation, I found the best solution to lie in transferring the responsibility for completing the work to General Officers Commanding-in-Chief, providing them with a small staff of remount officers for the purpose, and placing at their disposal the services of adjutants of the Territorial Force, to inspect and classify a sufficient proportion of horses in each county to provide the required quotas after allowing for casualties and rejections.

This month was the time assigned for the completion of the first classified lists and hereafter the lists will be continuously revised so as to keep touch with the changes in the horse population of the country.

The expansion of mechanical transport in the Army will reduce the number of horses required for the Expeditionary Force to a considerable extent, but unfortunately the corresponding expansion in the civilian world threatens to lead to the disappearance of the 'bus horse, on which we have hitherto mainly relied for artillery purposes."

Vivisection and the Veterinary Profession.

"No Choice of Doctor."

To the Editor of The Referee.

Sir,—Many, I feel sure, must have welcomed, as I did, the letter which appeared under the above heading in last Sunday's *Referee*.

I, for one, sincerely hope "Pate's" letter may bear fruit, and that we shall see the matter taken up, particularly by the societies which exist expressly for the purpose of protecting dumb animals. The members of these societies must surely be ignorant of the extent to which unnecessary suffering is inflicted upon animals by unqualified vets., or we should have heard of this matter long ago.

When a man consults a quack doctor and suffers in consequence, he has only himself to blame. Not so the horse! For him there is no "choice of doctor." His master chooses, while he, too often, suffers.—I enclose my card, and am, sir, yours, etc.

F.R.C.S.

Harley Street, W., March 27.

THE EFFECT OF GLYCERINE UPON THE CHROMOGENICITY OF BACTERIA.

C. Gazetti states (*Zentralbl. f. Bacteriologie, U.S.W.*) that the addition of glycerine to culture media in which chromogenic bacteria are being grown generally exercises an unfavourable effect upon the chromogenicity of the organisms.—(*Berliner Tier. Woch.*)

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaugh-tered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended April 6	17		31				7	12	65	103		69	576
Corresponding week in	1911		30				1	1			5	62	568
	1910	29	40				10	16			10	26	257
	1909	34	38				17	134			7	23	363
Total for 14 weeks, 1912	342		387				54	117	1581	3658	143	859	10384
Corresponding period in	1911		331		1	18	53	185			285	575	6299
	1910	434	538				103	275			293	323	2467
	1909	333	556				164	656			377	389	3572

* Counties affected, animals attacked: Kent 1; London 8, Warwick 3.

Board of Agriculture and Fisheries, April 9, 1912.

										Outbreaks		
IRELAND. Week ended April 6										...	5	11
Corresponding Week in	1911	...	...	...	...	...	...	...	...	3	7	3
	1910	...	...	...	...	...	...	...	...	2	7	2
	1909	...	1	1	...	...	...	...	...	2	12	1
Total for 14 weeks, 1912	...	1	1	...	...	...	...	...	...	27	213	63
Corresponding period in	1911	...	3	3	...	...	1	1	...	36	209	38
	1910	...	4	6	...	...	...	...	...	25	261	13
	1909	...	2	2	...	...	...	...	...	32	239	9

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 9, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The late Mr. Wyndham Bryer.

I much regret to see in your obituary list of the death of one of my old friends, Wyndham Bryer, late of Cheltenham, also that nothing is said about his many good qualities. Members of the profession who were in practice 20 or 30 years ago, will remember him as doing probably the largest practice in the examination of hunters as to soundness that has ever been done, or ever will be done, in this country, and at the same time making very few mistakes, his opinion being taken without question by the well-known horse-owners of that time. He was a man who had great force of character, and a determined but pleasant manner. He did not attend veterinary meetings to spout brotherly love and affection and the elevation of the profession, then go home and do a nasty trick to his professional neighbours, but I think I can safely say he never did a brother vet. any harm if he could possibly help it. In short a *man*, in the true sense of the word, has passed away. For some years he has been living at Boscombe, Bournemouth, having quite retired from the profession.

JAMES BLAKEWAY.

Mr. JOHN M'DOUGALL, M.R.C.V.S., second son of the late Mr. John M'Dougall, M.R.C.V.S., Helenburgh, and one of the most competent of the younger generation of veterinary practitioners, died with startling suddenness at his residence, 56 Grant Street, Glasgow, on 1st inst. We make this announcement with deep regret. Mr. M'Dougall was a young man of conspicuous promise in his profession, and leaves a young wife and family to mourn his loss. To his bereaved wife and family we tender our deep sympathy.—*The Scottish Farmer*.

CORRESPONDENCE.

UNQUALIFIED ASSISTANTS.

Sir,

I beg to draw your attention to certain advertisements in *The Record* for or by unqualified assistants. This seems to me to be extremely unfair to the young qualified man, who has usually very little capital and is not allowed to work for an unqualified man, and if he does so is considered to be acting unprofessionally, and is liable to be struck off the Register.

Meanwhile the richer practitioner is allowed to employ unqualified men, and so lessen the market value of the qualified assistant. At the same time he is acting, or supposed to be acting, professionally, and is not liable to be struck off the Register. I should like to know if the Council consider this justice?

It seems to me to be a case of one law for the rich and another for the poor. The fact is, that the qualified assistants are two small and weak a body to demand justice at the hands of the profession.—Yours faithfully,

M.R.C.V.S.

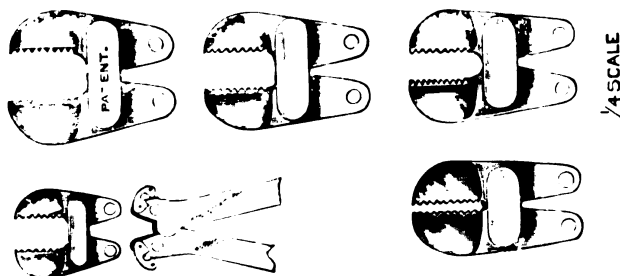
[We agree with our correspondent that practitioners should not employ unqualified assistants. But they do, and our Council makes no attempt to prevent them. We may modestly assume to help in guiding the profession in the right way, but we cannot be expected to usurp the powers of the Council.—Ed]

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of the writers, not necessarily for publication.

Arnold's Patent MOLAR TOOTH CUTTER

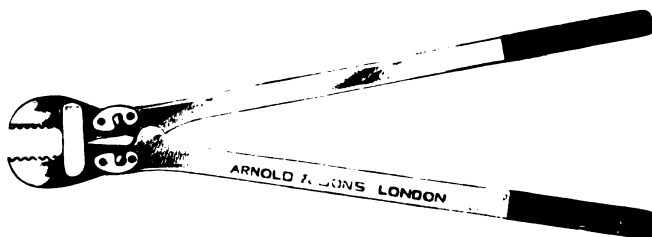
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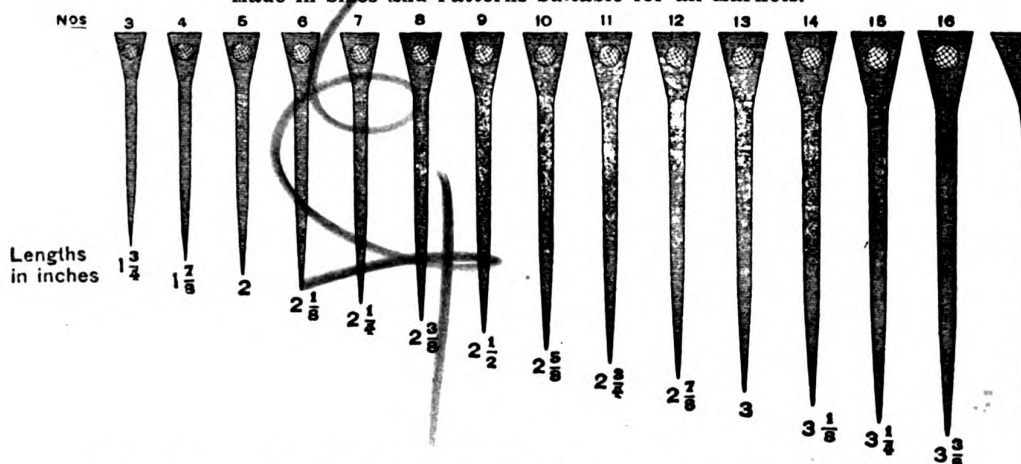
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No. 1241.

APRIL 20, 1912.

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Western Counties V.M.A.

THE 29th Annual Meeting will be held at the Royal Clarence Hotel, Exeter, on Thursday, April 25th. The President, Mr. H. E. Whitmore, Langoort, will take the chair at 2.30 p.m. Agenda. Routine business: To elect officers for the year: Specimens and Clinical Cases.
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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1241.

APRIL 20, 1912.

VOL. XXIV.

THE COUNCIL MEETING.

At last week's Council meeting not much was said regarding finance, and, indeed, the financial position speaks plainly for itself. The liabilities for the quarter exceeded the Treasurer's balance by over £30, and so, for the second time in the College year, £1000 worth of Consols are to be sold perforce. This is not quite so bad as it looks; for the greater part of the first sale of Consols went to repay a heavy bankers' overdraft, and the deficit now to be met is only a small one. But the thought that the present sale will keep us going longer than the last one did is cold comfort. The fact remains that we have been forced to take another step towards a bankruptcy from which nothing can save us, except the passage of our long-delayed Bill.

Two items connected with the Registration Committee's report call for notice. The first is that the Council has had an opportunity of expressing an opinion upon the proposed advertisement of veterinary surgeons by *The Private Horse Mart*, to which we called attention a fortnight ago. That opinion, expressed to the paper itself, is a definite one; and we may hope that no more will be heard of the scheme. The second is that the Council has at last decided to take action against the employment of unqualified assistants by veterinary surgeons. This is perhaps the most important decision arrived at during the meeting; and we shall refer to it at greater length in future. It is easy to foresee that individual cases will present some practical difficulties in their adjudication; but we are glad that the Council is making a move against a custom which is altogether harmful to the profession.

The President has been deputed to give evidence upon the question of patent medicines before a Home Office Select Committee, and has been fortified by a resolution which we only wish we could think likely to soon pass into law. Dr. Bradley has given notice of a proposed alteration of bye-law, the effect of which, if it is carried, will be to bring the dates of the Scotch Summer examinations into line with the English and Irish ones, as is the case with the Christmas examinations; and certainly the change seems commendable. The now well-known resolutions of the Association of Veterinary Officers of Health relating to tuberculosis have wisely been referred to a Committee for full consideration and report; so we shall hear more of them.

The Annual General Meeting in Dublin is to be marked by a revival of the official dinner. Apparently this is to be done without cost to the R.C.V.S.—and our impression is that the Irish practitioners will make meeting and dinner alike a success.

AN EXCEPTIONAL CASE OF LACERATION OF THE MUCOUS MEMBRANE OF THE TRACHEA IN A HORSE.

The subject was a five-year-old Black van gelding which was bought in the country on Oct. 26th, 1911, and sent to London the same day. The next day it was tried for its wind and found to be sound. On 30th and 31st October it was worked for two short trials and was reported to be a good worker, nothing being noticed amiss.

On November 1st it was found to be sick and was admitted to the Infirmary for treatment.

Symptoms.—On the first three days feverish symptoms were shown. On the fourth day the temperature rose to 107, pulse 90, a suppressed cough was observable, and a slight noise was heard which appeared to be Laryngeal or from upper part of Trachea. Auscultation of thorax revealed sounds of Broncho-pneumonia.

For the following three days the horse showed some improvement with lowering of temperature, 104, pulse 65, and was feeding better.

On November 9th it became worse, temperature rose to 105, pulse 72, and the respirations were very quick, with dyspnoea. A peculiar vibrating, sonorous, thumping sound could now be heard in the Trachea. The dyspnoea grew gradually worse, and on the evening of the 9th day the noise in the Trachea could be heard 30 yards away, and as there was danger of suffocation, I performed Tracheotomy on the 10th day to see if it would give relief. On inserting the finger through the tube-opening made in the trachea a membrane could be felt which was being firmly pressed downwards, almost blocking the lumen of the wind-pipe. The Tracheotomy tube was inserted, but had to be withdrawn immediately as it only made the breathing worse.

On 13th November the breathing became easier and it now commenced to breathe through the opening made in the wind-pipe. Diuresis set in and a slight discharge from both nostrils was noticeable, first of a catarrhal kind, after which it became muco-purulent. The horse was now in a very weak and exhausted condition, with quick, weak, irregular pulse; became worn out and died the 14th day from the commencement of the illness.

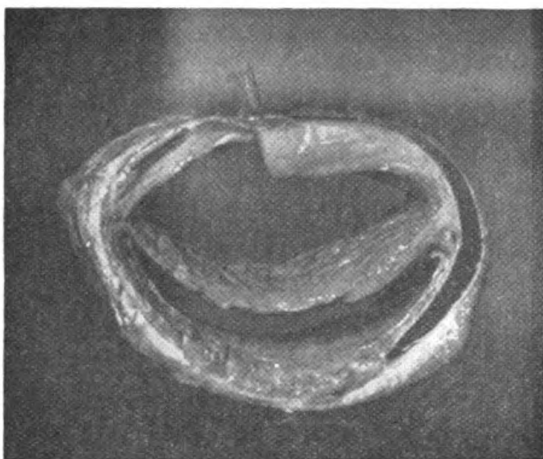
Treatment.—In early stages, febrifuges; later, carbonate of Ammonia, Camphor and Nux Vomica was given in bolus. Hot cloths to sides and oxygen inhalations gave temporary relief.

Post Mortem.—The trachea was found divided throughout its entire length from larynx almost to the branching of the right and left bronchi, by a transverse septum formed by the mucous membrane

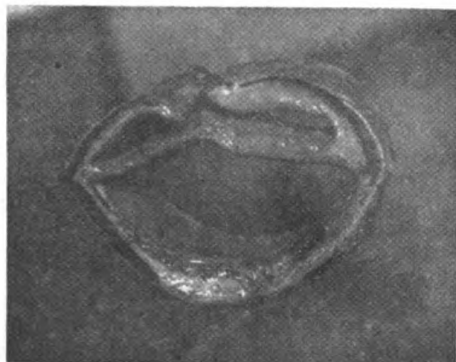
on the posterior or upper part of the tube being torn from the fibro-elastic membrane and forced downwards. The septum in the lower part of the trachea was still complete, in the upper part it had ruptured longitudinally in the middle line to just below the seat of the tracheotomy operation.

The mucous lining of the trachea and bronchial tubes was intensely red and inflamed, and that part forming the septum much thickened.

Three-fourths of the right lung and one-third of the left was pneumonic and very much consolidated. The anterior portions of the lungs were only affected, and septic changes had commenced to take place in the lung tissue.



Section of trachea showing septum as found at post-mortem.



Section of trachea showing septum fixed back in position.

Remarks.—Although inquiries failed to discover that the horse had met with an accident, and there were no external marks of injury on the neck, I am of opinion that it must have met with an injury through coming in contact violently with something, causing injury to the mucous membrane in the upper part of the Trachea. Laceration of the membrane and tearing of it from the fibro-elastic membrane led to the formation of a pocket or cul-de-sac into which the air rushed, which with inflammatory changes and spasm of the tube led to

the gradual tearing up of the membrane and its being forced downwards, blocking the lumen of the tube and leading to distressed breathing. The relief in the breathing on the 13th day was, I think, due to the rupture of the septum longitudinally from larynx to just below the seat of the tracheotomy operation when breathing commenced through the opening made in the wind-pipe.

The septic condition of the lungs was no doubt due to infection from trachea.

The accompanying photographs will show the septum complete.

R. EAGLESHAM, M.R.C.V.S.

Paddington, London.

ABSTRACTS

THE ISOLATION AND CULTIVATION OF JOHNE'S BACILLUS, AND EXPERIMENTS UPON THE PREPARATION OF A DIAGNOSTIC VACCINE FOR JOHNE'S DISEASE.

Messrs. F. W. Twort, M.R.C.S., L.R.C.P., and G. L. Y. Ingram, M.R.C.V.S., have recently reported (*Proceedings of the Royal Society*, B. Vol. 84. 1912) some important experimental work upon the bacillus of Johne's disease. The report covers a great deal of very valuable work; and the following is a brief summary of its main results.

The authors confirm the view of previous workers that Johne's bacillus fails to grow on any of the artificial media at present used by bacteriologists. They also find that the bacillus shows no definite growth on fresh bovine tissue or fresh extracts of bovine tissue, removed aseptically and placed in sterile flasks. In addition, they performed some experiments to test the possibility of Johne's bacillus working in symbiosis with an ultra microscopic virus, and in every case obtained negative results. They have therefore no evidence of such symbiosis in the case of Johne's disease.

Further, the authors, working upon the same reasoning as that which previously led one of them (Mr. Twort) to the successful cultivation of the lepra bacillus (see *V.R.*, February 4, 1911, page 494), have devised a method of cultivating the bacillus of Johne's disease. They find that Johne's bacillus will grow on media containing the dried and powdered growth of certain acid-fast bacilli which have been previously killed, and this is so even when the dead bacilli have been kept for a period of eight years, and subjected to a temperature of 115°C in the autoclave for one hour. The bacilli are easily sub-cultured on to fresh tubes of the same medium, but not on to the ordinary laboratory media.

The most suitable bacillus to incorporate in the medium is the timothy grass bacillus, and to a somewhat less degree the smegma bacillus of Möller and the naseuschleim bacillus of Karlinski. The human type of tubercle bacillus is also good, but on media containing the avian type Johne's bacillus grows very slightly, if at all. The authors tested a few strains of bovine bacilli in media, but were unable to get any definite evidence of growth of Johne's bacillus. Tubercle bacilli isolated from cats also gave negative results.

The substance or substances in the various acid-fast bacilli (timothy, etc.) which render the medium suitable for the growth of Johne's bacillus can be extracted from them by means of hot ethyl alcohol. The extract thus obtained, when added to media in lieu of the dead bacilli, permits the growth of Johne's bacillus.

The authors have isolated Johne's bacillus (using ericocolin to aid in the isolation in the case of contaminated specimens) from five consecutive cases of Johne's disease, and have proved the morphological and biological characters of the bacilli isolated to be identical in every respect. The isolated bacilli produce no lesions when administered orally, intraperitoneally, sub-cutaneously, or intra-venously to mice, rats, guinea-pigs, rabbits, pigeons, or hens. When given orally or intra-venously to bovines, however, the isolated bacillus reproduces Johne's disease, which cannot be distinguished from the original disease either clinically during life or *post-mortem*. The bacillus can be recovered from the lesions in the intestine of the inoculated animal, and shows characters in every way identical with the bacilli isolated from the original cases.

Having succeeded in cultivating the bacillus, the authors proceeded to work with the object of obtaining a diagnostic vaccine. They find that animals suffering from Johne's disease, either normally contracted or experimentally produced by the inoculation of pure cultures of Johne's bacillus, gives no definite reaction with diagnostic vaccines prepared from cultures of the timothy grass bacillus or from the avian tubercle bacillus. They further find, however, that vaccines similar to those prepared from other acid-fast bacilli can be prepared from cultures of Johne's bacillus. Diagnostic vaccines prepared from cultures of Johne's bacillus grown on "tubercle bacillus medium" gave positive reactions with *tubercular* animals, which proved the medium used to be unsuitable for the preparation of a specific diagnostic vaccine for Johne's disease. Vaccines prepared from cultures of Johne's bacillus on a "timothy grass bacillus medium" gave negative reactions with normal and with tubercular animals, and also with cattle suffering from Johne's disease. The authors attribute this to the fact that they have hitherto obtained only a small amount of growth in their fluid media, and partly also to most of the growths having been obtained from solid media, and therefore not made in the same manner as diagnostic tuberculin. They also believe that a highly concentrated vaccine will be required to give a positive reaction; and, as one of their strains of Johne's bacillus has now commenced to grow upon the surface of fluid media, they anticipate that other strains will yield a similar growth in time, and that it will then be possible to prepare a diagnostic vaccine of sufficient strength.

At present, the authors are financially handicapped; for, though they are now preparing a number of vaccines for further diagnostic experiments, they require more cattle upon which to test their efficacy. They express the hope that a reliable diagnostic vaccine will soon be obtained, by other investigators if not by themselves; and with that end in view they have sent sub-cultures of Johne's bacillus grown by them to various workers in the British

Isles, France, and Denmark. Johne's disease, from its nature, is one in which an efficient diagnostic vaccine would be of especial value; and the authors, by devising a method of cultivating the bacillus, have brought such a vaccine into the realms of possibility.

AN OUTBREAK OF BOVINE DIPHTHERIA.

Hendrickx, professor at the Belgian Veterinary School, and Kempeneers, a veterinary practitioner at Landen, describe an outbreak of bovine diphtheria which they observed upon a very large farm. Upon this farm was a nearly constant average number of 120 fattening cattle, the fattening period lasting from two to three months. The hygienic conditions were as perfect as possible; and, just before the outbreak, the animals appeared in perfect health.

Clinically, the authors divide the disease into three stages. The first stage lasts little more than forty-eight hours, and its special manifestation is fever, the temperature rising in the first place to 105.8° F. The cattle prefer to lie rather than stand; the respiration is slightly accelerated; but neither catarrh, nor cough, nor fetidity of the breath, are yet observed. The appetite is still partially preserved, but rumination is absent.

During the second stage a very marked predominance of the respiratory symptoms is observed. The respiration becomes very frequent and difficult. Dyspnea is so great that the animals hold the mouth open, showing the buccal mucous membrane cyanosed. Soon the respiratory difficulty becomes such as to threaten asphyxia; the respirations now amount to from 100 to 120 per minute. Coughing has now appeared, and becomes frequent and spasmodic. This latter symptom is explained by the fact that the alterations, at first localised in the nasal cavities, extend to the larynx and soon invade the trachea and the large bronchi.

Decubitus has now become almost constant. The appetite is lost, the fæces are scanty and dry, and the urine is scanty.

Percussion of the chest reveals nothing abnormal. Auscultation reveals abundant mucous râles and an augmentation of the vesicular murmur at the base of the lung.

Towards the end of this second period it is noticed that the breath in some patients is very fetid, and that its odour may be recognised at some distance. Examination of the nasal mucous membrane shows that it is very injected and turgid; its surface presents greyish deposits, some adherent, others partially detached or totally separated from the mucous membrane, and undergoing elimination in the discharge.

In the third period the dyspnea becomes yet more accentuated. The air passages, up to and including the small bronchi, are invaded by the products of secretion, which obstruct them and render the respiration, which is very difficult for the anterior passages, soon impossible for the posterior ones. Standing becomes more and more difficult; the animals lie upon their sides and soon die asphyxiated.

During this period the fetidity of the breath augments more and more. An abundant mucopurulent discharge, containing *débris* of gangrenous mucous membrane mixed with croupous exudate, flows from both nostrils. Examination of the thorax reveals evident symptoms of broncho-pneumonia, especially in the anterior lobes.

Lesions.—In benign cases, or in animals slaughtered during the first period, the lesions extend little beyond the nasal cavities. Superficially, the engorged mucous membrane shows a pale greyish tint, due to the superficial exudate. If this is stripped off the mucous derma is seen to be exposed by desquamation and destruction of the epithelial layer.

The exudate mixed with epithelium appears in the form of patches of varying size, and still adherent to the derma.

If the animal succumbs later, the same lesions are found upon the whole extent of the respiratory mucous membrane, from the wings of the nostril to the fine bronchial ramifications. From one end to the other the mucous membrane is corroded, and the diphtheritic lesions extend to such a depth that at some points the mucous membrane is totally destroyed. Even the septum nasi may be affected. The destructive lesions attack the laryngeal mucous membrane, and the authors have even seen the vocal cords become detached by fragments. A creamy, yellowish-white mass, more or less adherent and giving out a repulsive odour, is found upon the whole extent of the tracheal mucous membrane. When this mass is removed by light traction or by scraping the epithelium beneath it is found to be totally destroyed.

The lungs collapse very incompletely. In places they show gas-containing sacs resulting from the rupture of pulmonary vesicles. The emphysema is the consequence of the animal's violent respiratory efforts; which, in some cases, are so pronounced that the authors have seen the visceral pleura separated from the lung and forming emphysematous sacs the size of a hen's egg.

The anterior lobes of the lung show lesions of broncho-pneumonia. When they are cut into the bronchi are seen to be obstructed by fibrinous plugs.

The subglossal and bronchial lymphatic glands are almost unaffected. They may be slightly engorged, but their sectioned surfaces show no abnormality of texture. The mucous membrane of the sinuses is unaffected, as are also all other organs.

The flesh, even from a severely affected animal, has a good aspect; and its consumption has caused no ill effects.

Diagnosis.—The disease may perhaps be confused with verminous bronchitis; but the absence of nasal lesions in the latter, the character of the catarrh, the results of auscultation of the chest, and the special *timbre* of the cough, are sufficient to avoid an error in diagnosis. Moreover, verminous bronchitis rarely sets in so suddenly, and its initial symptoms are not so alarming as in the case of diphtheria.

Prognosis.—Spontaneous recovery is possible when the disease is mild and has not advanced beyond the first stage. In more serious cases an active treatment may save the patient, but the mortality is high. Hutyra and Marek give Danish statistics, showing a mortality of 44 per cent. The authors, in the outbreak under notice, saw eight cases die or be destroyed out of twenty-one affected animals; the mortality was therefore 38 per cent. As there were 120 cattle upon the farm where these twenty-one cases were seen, the proportion of affected animals was about 18 per cent.

Treatment.—Prophylactic measures to avoid the extension of the disease to healthy animals are very important. These consist in the ordinary ones— isolation of the patients and vigorous disinfection of all objects which have been in contact with them. For the latter purpose the authors use a 4 per cent. solution of sulphuric acid. As *curative* treatment, they recommend nasal insufflations with a 10 per cent. solution of tannic acid; by which, even in serious cases, they have obtained complete recovery at the end of eight or ten days.

Finally, they suggest that an appropriate serotherapy may be found practicable in the future.—(*Annales de Méd. Vét.*) W. R. C.

INFLUENZA OF THE HORSE IS DUE TO A FILTRABLE VIRUS.

As was foreseen from the results of the researches into many other contagious diseases, equine influenza has been shown by Basset to be due to an invisible organism and an inoculable disease, as was long ago pointed out by Dieckerhoff. Nearly every other authority has failed to transmit influenza by inoculation.

Basset obtained some blood from a horse suffering from influenza; this was defibrinated and 100 c.c. of the resulting liquid was injected into the vein of a susceptible horse. Five days later the temperature rose to 105° F. and then all the characteristic symptoms of the natural malady declared themselves. On the eleventh day the animal being unable to rise and having some extremely violent tetaniform attacks it was destroyed.

Inoculation of 20 c.c. of defibrinated blood diluted with 200 c.c. of water and filtered through a Berkefeld V. bougie, determined in a horse, after an incubation of three days, symptoms of influenza which lasted eight days and then terminated in recovery.

Inoculation under similar conditions as mentioned above did not give any result in a very aged mare without a previous history. Therefore this animal was immune at the time of the experiment, but it is quite possible this immunity was due to a previous attack of the malady. It is without doubt that by the haphazard choice of experimental subjects, or rather by the absence of any choice, the explanation of the repeated unsuccessful attempts to transmit by inoculation influenza is due.

Inseminations of blood of subjects having natural influenza and of those experimentally infected always remained sterile.—(*Recueil de Méd. Vét.*, September, 1911, ex *Revue Vétérinaire*, April 1st).

SERO-THERAPIC TREATMENT OF WOUNDS.

Léclainche and Vallée have applied the specific sero-therapeutic treatment to infected wounds. The serum should cover the surface of the wounds, aseptic or infected, to favour the vitality of the cells and to bring antibodies to the phagocytes, so as to stimulate their phagogenous action.

A polyvalent serum is obtained by submitting the horse to an immunising treatment by the aid of various varieties of staphylococci and streptococci and multiple strains of colon and pyocyanic bacilli.

The microbial bodies employed are derived from cultures on agar or on the Maurice Nicolle medium (agar and potato). The mixture of the microbial varieties cultivated are used in equal parts. The microbial bodies are killed by alcohol-ether, then dried and preserved in a dry state in vacuo and kept in a refrigerator.

The dried germs are weighed, rubbed up in an agate mortar, and then emulsified in normal saline solution. Of the dried microbial bodies 5 to 50 milligrammes, corresponding in weight to ten times more than that of the fresh organisms, are injected. The injections are made every eight days with progressively increasing doses. After several months treatment the animal can support an injection of 50 centigrammes of fresh microbes.

The authors have used this serum in the treatment of old or atonic wounds and suppurating cavities. After washing the wound with boiled water the dried or liquid serum is applied by a spray or an insufflator.

In every case the duration of cicatrisation has notably been shortened and the serum generally acts with surprising rapidity. (*Académie des Sciences, Séance du 4 Mars, 1912, ex Revue Vétérinaire, 1er Avril.*)

H. G.

ANOMALY OF THE SEXUAL ORGANS IN A HORSE.

By S. S. SOKOLOV, Veterinary Surgeon, Russia.

This horse has a very interesting disposition of the sexual organs. The penis commences at the anus and descends straight down; the prepuce and penis are normally developed. The horse is capable of erection when near a mare: urination takes place through the penis.

The scrotum is wanting, but in its stead are two normal teats and a small udder somewhat higher: in the inguinal canal two small testicles may be felt with difficulty; these are carefully withdrawn into the abdominal cavity.

Externally the horse is well shaped, markedly masculine, with a strong and well formed body.

Trans. V.S. N. Foss, ex Russian Vet. Rec.
ex Esperanto.

F. E. P.

Royal College of Veterinary Surgeons.

QUARTERLY MEETING OF COUNCIL.

A Quarterly meeting of Council was held at the College, 10 Red Lion Square, London, W.C., on Friday, April 12th, Prof. A. E. Mettam, President, in the chair.

The following members were present: Major-General Thomson, C.B.; Professors Bradley, Sir J. McFadyean, and Shave; Messrs. Abson, Banham, Carter, Garnett, Lawson, Lloyd, Mason, McL. McCall, McKinna, Mulvey, Roberts, Shipley, Slocock, Stockman, Sumner, Trigger, and Villar; Mr. G. Thateher, Solicitor, and Mr. F. Bullock, Secretary.

MINUTES.

On the motion of Mr. Roberts, seconded by Major-General Thomson, the minutes of the previous meeting of Council were taken as read and confirmed.

OBITUARY.

The SECRETARY read the Obituary List.

ADMISSIONS TO MEMBERSHIP.

The SECRETARY announced that since the date of the previous quarterly meeting the following admission to membership had been made:

London College.—Mr. Charles Holland.

CORRESPONDENCE.

The SECRETARY announced the receipt of apologies for absence from Messrs. W. F. Barrett, Dewar, Dunstan, Rutherford, and Wharum.

The SECRETARY read the following letter: "The President and the Committee of Organisation have the honour to invite the Royal College of Veterinary Surgeons to participate in the Fifteenth International Congress on Hygiene and Demography to be held under the auspices of the Government of the United States, at Washington from the twenty-third to the twenty-eighth of September, nineteen hundred and twelve."

The PRESIDENT: You have heard the invitation read. What is your wish? Shall the College be represented or not?

Mr. MULVEY: Certainly. As far as I am concerned I shall be pleased for the Royal College to be represented, so long as they do not ask for any money. (Laughter).

Mr. LAWSON: Will somebody volunteer?

The PRESIDENT: Have we anyone in the States who could represent us? I find on looking at the Register that we have a member of the College who occupies an eminent position at Washington in the Bureau of Animal Industry, Mr. Albert Hassall, who is acting chief in the Zoological Division. Perhaps he might represent the College. I think it is as well that we should keep in touch with all these congresses, and if we can do it at a minimum cost all the better. I propose that Mr. Hassall be asked to represent the Royal College of Veterinary Surgeons at the Congress of Hygiene and Demography to be held in the States in September next.

Mr. TRIGGER: As an honorary representative.

The PRESIDENT: As the representative of the College.

Mr. LAWSON: I will second that.

The PRESIDENT: Is it your wish that Mr. Hassall be asked to represent the College?

Mr. STOCKMAN: Is he a member of the Royal College?

The PRESIDENT: Yes, he is a member of the College and is in the Bureau of Animal Industry at Washington.

Mr. STOCKMAN: Are we going to pay his expenses? I think the people there are allowed £3 a day, which is pretty heavy.

The PRESIDENT: If the United States pay for it, it does not matter.

Mr. STOCKMAN: What I want to know is, are we going to pay him?

Mr. TRIGGER: I think I should let the matter lie as it is, myself, as he lives at Washington.

The PRESIDENT: We could put in a private note that we could not afford to pay any expenses.

Mr. TRIGGER: If you do that I agree. I should not leave it open.

The PRESIDENT: You must remember that he is at Washington.

Mr. STOCKMAN: And under those circumstances his expenses will be nothing.

The PRESIDENT: I think he will take it as an honour to represent the College.

Mr. TRIGGER: I suggest that we ask him to be our honorary representative.

The PRESIDENT: We can communicate with Mr. Hassall in the meantime, and if it is going to cost us anything we will know what to do. Is that your wish? (Agreed to).

The SECRETARY: I have received the following letter from Prof. Mettam, the President, in reply to one of mine in regard to the annual general meeting of the College:

"Dear Mr. Bullock, yours to hand, and before replying I communicated with the Royal Dublin Society, who have granted the use of their Theatre for the meeting on June 5th. So that the place of meeting will be 'the Theatre of the Royal Dublin Society, Kildare Street, Dublin (by permission of the Council of the R.D.S.)' I enclose the correspondence with the Royal Dublin Society and the regulations under which the use of the Theatre is granted."

The following is the letter that was enclosed:

"Royal Dublin Society. Dear Sir,—In reply to yours of 18th inst., I beg to say that the Council have much pleasure in granting the use of the Lecture Theatre to the Royal College of Veterinary Surgeons for a meeting on June 5th, 1912, on the usual conditions."

Mr. SUMNER: Should we send them our thanks now?

The PRESIDENT: I wrote and thanked them for the permission. I think a Resolution of Thanks had better come afterwards.

The SECRETARY: The only other item of correspondence is a letter from Mr. A. M. Trotter, M.R.C.V.S., Hon. Secretary of the Association of Veterinary Officers of Health, enclosing the following Resolution passed at the Annual Meeting of the Association held in Edinburgh on the 13th October, 1911: "The Delegates and Members assembled at the Annual Meeting of the Association of Veterinary Officers of Health, held at Edinburgh on 13th October, 1911, recognising the danger to the public owing to the prevalence of tuberculosis amongst animals, and particularly by the consumption of the meat and milk of such animals, respectfully and urgently call upon the Government to take immediate steps to control the disease by (1) Scheduling tuberculosis as a contagious disease under the Diseases of Animals Act, with partial compensation for all tuberculous animals and carcasses notified and condemned, payable out of State funds for a limited period; (2) Offering financial assistance to all owners and breeders of stock who are willing to take the necessary action to breed tubercle-free herds; (3) Compelling owners of property to provide sanitary buildings in which to house healthy animals, by means of State loans if necessary—the occupants of such buildings to keep them in a cleanly condition; (4) Taking such further action as may be considered necessary in the future to completely eradicate tuberculosis from the

midst of farm animals; and (5) Placing under adequate control sea-borne supplies of meat and milk."

Mr. MULVEY: I move that this communication be sent to the General Purposes Committee for consideration and report.

Mr. STOCKMAN: May we ask what the meaning of it is? It seems to me to be a set of Resolutions framed for the Government. How do we come in? Is it sent to us asking us to support the Association or to support the Resolutions, or what is the position of the thing?

Mr. LLOYD: I might say in regard to this Resolution that it has been sent to each Member of Parliament; to each Local Authority in England, Scotland, and Wales; to each Member of the Association of Veterinary Officers; to the Chambers of Agriculture; to the Royal, and Highland and Agricultural Societies; and to other similar bodies.

The PRESIDENT: Before you go on, in order to put matters in order, will someone kindly second Mr. Mulvey's motion that the letter be referred to the General Purposes Committee?

Mr. TRIGGER: Will that be in time? A meeting of the General Purposes Committee will not be held before July.

The PRESIDENT: There is no rush; there is no hurry about it. This is a very big question.

Mr. TRIGGER: Then I will second with pleasure.

Mr. LLOYD: I propose the following Amendment: "That this Council expresses its general approval of the principles of the Resolution relating to tuberculosis passed by the members of the Association of Veterinary Officers of Health at Edinburgh on October 13th, 1911."

In support of that Amendment I would claim your indulgence for a time to make a few observations. I do not think that anyone will minimise or want to deny the prevalence of tuberculosis amongst animals. Neither will they want to deny that there is a danger to the public through such prevalence. The danger which I have in mind more particularly is in regard to tuberculous milk, and, secondly, tuberculous meat from animals so affected. As we all know, tuberculosis of the udder, particularly in cows, is a very insidious disease and requires considerable attempts to deal with it. At present it is not being dealt with in anything like a satisfactory manner; the attempts that are being made are simply of a piecemeal character. In regard to tuberculous meat, there is not perhaps so much to say, but if you look at it from another point of view, namely, the loss to the community, we shall see at once that it is considerable. The disease causes loss to farmers through wasters; it causes loss to dairymen through cows affected with tuberculosis of the udder being condemned and having to be killed; it causes loss to butchers through well-nourished but extensively diseased carcasses being either surrendered or seized and condemned. Taking into account that general statement, I think the time has certainly arrived when some measures ought to be taken to eradicate the disease. The methods of control at present are shortly: The Dairies and Cowsheds and Milkshops Orders, and Regulations made thereunder. Those are voluntary or permissive, and in other ways not as effective as they might be. The Tuberculous Milk Orders in connection with certain towns go a considerable distance towards protecting the inhabitants of those towns from the consumption of tuberculous milk if they are thoroughly and efficiently carried out. The recommendations of the Royal Commission on Tuberculosis are practically the only means that have ever been brought forward for dealing with tuberculous meat; and those I might say at once are to some extent unpractical. In my opinion all these Regulations which are now in force or can be put in force are both inefficient and insufficient. They are inefficient due to the want of compulsion, co-ordination and uniformity. They are insufficient inasmuch as they are only running after

the disease and doing nothing at all to prevent it. The future Regulations which might be taken into consideration are the Tuberculosis Order and the Milk Bill. The Tuberculosis Order deals with notification, condemnation and slaughter of wasters and cows affected with tuberculosis of the udder, with compensation from local funds. I might say that that Order was welcomed by nearly everyone, but as a matter of fact it was opposed by almost everyone, and for two divergent reasons. The ratepayers in the country objected to pay compensation out of local rates, because they said they were doing so to protect the inhabitants of the towns. The inhabitants of the towns, on the other hand, objected to pay out of local rates because they said nothing was being done under the Tuberculosis Order to eradicate the disease. The Milk Bill instead of being run by the Board of Agriculture was proposed to be run by the Local Government Board, and from that point I think was to be deplored. It was establishing or ratifying the dual control which is at present in force. Neither of them, in my opinion, go far enough to deal with the disease. The required methods for controlling and eradicating the disease are, in my opinion, something on the lines of Ostertag and Bang. The methods recommended by Ostertag are those recommended under the Tuberculosis Order.

The PRESIDENT: I am afraid you are going a little too far in the discussion of the question. You must speak to the motion.

Mr. LLOYD: I think I am; I am only speaking to it, but I will be called to order with great pleasure. I am dealing with the resolution. I think this covers the resolution submitted by the Association of Veterinary Officers of Health.

The PRESIDENT: I would like to draw your attention to the fact that what you are saying only emphasises the necessity of having a real dress debate on this subject. It cannot be settled to-day. I would like you to stick rather to the fact that we should refer the matter to a Committee.

Mr. LLOYD: There are the general principles to be considered.

The PRESIDENT: We cannot discuss it now; it is so big a subject.

Mr. LLOYD: I do not think there would be any advantage gained in leaving it over although it is such a big subject.

Mr. STOCKMAN: It is in order, is not it?

Mr. SUMNER: We all agree about these measures.

The PRESIDENT: But the thing cannot be settled to-day.

Mr. LLOYD: In order to put it shortly I will speak without any notes at all. My reason for moving the amendment is this, that as at present suggested we shall have the Tuberculosis Order being brought forward by the Board of Agriculture and the Milk Order being brought forward by the Local Government Board, which as I have just said will ensure dual control; whereas I think if the whole matter was left in the hands of the Board of Agriculture, which is what these Regulations really amount to, it would be to the advantage of the public and certainly to the advantage of the veterinary profession. If the matter is dealt with by the Local Government Board it means that a lot of the control of the diseases of animals, particularly tuberculosis, will be left in the hands of the medical men, whereas I think if it were taken and scheduled as a contagious disease and put in the hands of the Board of Agriculture it would be dealt with by veterinary surgeons. As I have said before, veterinary inspection of cows with tuberculous udders, of wasters, of cow sheds, and of dairies is very necessary to secure a pure milk supply, and the same staff would both educate the public in trying to eradicate the disease and help them by testing the cattle and soon. With these remarks I will move the amendment.

The PRESIDENT: Is there any seconder to Mr. Lloyd's amendment, namely, "That this Council expresses its general approval of the principles of the resolution relating to tuberculosis passed by the members of the Association of Veterinary Officers of Health at Edinburgh on October 13th, 1911."

There being no seconder to the amendment, I will put the original motion moved by Mr. Mulvey, and seconded by Mr. Trigger, that this resolution be referred for consideration to the General Purposes Committee for report to this Council.

The resolution was put and carried.

PRESENTATIONS TO THE LIBRARY.

The SECRETARY announced that the following presentations had been made to the Library since the last meeting of Council:—

Veterinary Physiology, 3rd edition, by Maj.-Gen. F. Smith, C.B., C.M.G.; Veterinary Physiology, 4th edition, by Maj.-Gen. F. Smith, C.B., C.M.G.; The Economics of Feeding Horses, by Prof. H. A. Woodruff, M.R.C.V.S.; Calendar of the Pharmaceutical Society of Great Britain, 1912; Calendar of the Pharmaceutical Society of Ireland, 1912; The Registers of Pharmaceutical Chemists and Chemists and Druggists, 1912; Calendar of the University of Liverpool, 1912; Report of the Bureau of Animal Industry, 1910, U.S. Department of Agriculture; Report of the Director of Veterinary Research, 1911, Department of Agriculture, South Africa; Report of Director of Abattoirs and Live Stock Markets, and Municipal Veterinary Surgeon, 1910 to 1911, Johannesburg; By-Laws, Municipal Live Stock Market, Abattoirs, etc., 1912, Johannesburg. Pamphlets of U.S. Bureau of Animal Industry: Directions for Constructing a Vat and Dipping Cattle to Destroy Ticks; The Spontaneous Oxidation of Arsenical Dipping Fluids; Tuberculosis; Practical Methods of Disinfecting Stables; Trypanosoma Americanum, a Common Blood Parasite of American Cattle; *The Rhodesian Agricultural Journal*, December, 1911, and February, 1912; *Revue de Pathologie Comparée*, December, 1911, January and February, 1912; Bulletins of the Sleeping Sickness Bureau, January, February, March, and April, 1912; Bulletin of the Yellow Fever Bureau, January, 1912; *The Journal of the Board of Agriculture*, January, February, and March, 1912; Leaflets of the Board of Agriculture and Fisheries; *The Journal of Tropical Veterinary Science*, Vol. VII., No. 1; *The Veterinary Journal*, *Veterinary News*, and *Veterinary Record* for the quarter; *The Journal of Comparative Pathology and Therapeutics*, March, 1912; *La Tuberculose*, November-December, 1911, and January, 1912. Replica of Medal presented to Prof. Degive by the Fédération Médical Veterinaire de Belgique on the occasion of his promotion to the rank of Commander of the Order of Leopold.

On the motion of Mr. MULVEY, seconded by Mr. BANHAM, a hearty vote of thanks was accorded to the respective donors.

The PRESIDENT: Before we go to the next business I would like to draw the attention of the Council to the very beautiful replica of the Medal which was presented to Prof. Degive, and which was sent to me in my official capacity as President of the Royal College of Veterinary Surgeons. I acknowledged the receipt of the replica, and told the donors that I would have the pleasure of personally presenting it for them to the Council of the R.C.V.S. I therefore now have pleasure in passing round to the various members of the Council the medal containing the portrait of Prof. Degive, which is a most admirable one, and if the Council will permit me I would like myself to pay for the mounting of the medal so that it may be preserved in the College Library. (Cheers).

FINANCE COMMITTEE.

Mr. MASON read the following report of a meeting of the Finance Committee held on Friday, April 12th, 1912:—

Donations. The Secretary reported the receipt of donations from members for the year 1912, amounting to eight guineas. It was resolved that the donations be accepted with thanks.

Financial Statement. The Treasurer submitted his Financial statement for the quarter, which showed a balance in hand of £84 7s. 11d, and liabilities amounting to £116 12 3d., leaving a deficit of £32 4s. 4d.

It was resolved—

(a) That the Financial Statement be approved, and that the Treasurer be authorised to pay the liabilities shown, together with cheques for monthly salaries, petty cash, insurance, examiners' fees and examination expenses, Scotland, Fellowship fees, gas, electric light and window cleaning.

(b) That the Treasurer be authorised to sell out a further £1000 of Consols if necessary.

Mr. MASON: I beg to move that the report be received and adopted.

Mr. TRIGGER: I do not think there was any "if necessary" in the sanction that we gave to the Treasurer to sell out a further £1000 worth of Consols. I think the unfortunate resolution was—and it had better go straight to the profession—that we had to sell another £1000 of Consols. I appeal to the Treasurer that there was no "if necessary" about it. I suggest that that is wrong.

Mr. LAWSON: It was my proposition, and there was certainly no "if necessary" in the resolution.

Mr. TRIGGER: Subject to "if necessary" being struck out, I move the adoption of the minutes.

Mr. LAWSON: I second that.

The resolution for the adoption of the minutes, with the deletion of the words "if necessary," was then put and carried unanimously.

REGISTRATION COMMITTEE.

The SECRETARY read the report of a meeting of the Registration Committee held on Thursday, April 11th, 1912, which stated that a letter (April 4th) was received from the "Private Horse Mart" with reference to the publication of a list of veterinary surgeons, and it was resolved that the Secretary be instructed to reply that any member whose name was published in such a list of veterinary surgeons would be contravening the bye-laws, and would be liable to have his name removed from the Register.

A card bearing the name "———, Operator and Castrator, Assistant to Mr. ———, M.R.C.V.S.," was submitted, and the Secretary was instructed to communicate with the member warning him of the breach of the bye-laws, and asking for an explanation to be submitted to the next meeting of the Committee.

A copy of Kelly's Directory of Paddington was submitted, containing advertisements by six members of the R.C.V.S., and it was resolved that the Secretary be instructed to call upon these members to appear before the next meeting of the Committee to show cause why their names should not be removed from the Register.

A letter (Feb. 22nd) was received calling attention to an advertisement by a member, and the Secretary was instructed to write requesting that the sign be removed forthwith, failing which the Member be called upon to appear at the next meeting of Committee to show cause why his name should not be removed from the Register.

Other letters were received and the Secretary was instructed as to the replies to be sent.

Thirteen cases were considered by the Committee, and instructions were given with regard to the action to be taken in each of them.

A letter was received from Mr. Peter S. Cowan submitting his resignation as a member of the Royal College of Veterinary Surgeons, and it was resolved to recommend to the Council that the resignation be accepted.

Unqualified Assistants. The question of the employment of unqualified assistants was considered, and the following recommendation was passed:—

"It having been brought to the notice of the Registration Committee that a considerable number of veterinary surgeons are employing unqualified assistants in ways calculated to lead the public to believe that these assistants are qualified to practise veterinary medicine and surgery, the Committee are of opinion that the time has arrived for taking definite action to put an end to this objectionable practice of covering."

Restorations. Applications for restoration to the Register were received from Mr. George Francis Brown and Mr. Albert Spruce, whose names had been removed under the operation of Section 5, Sub-section (4) of the Veterinary Surgeons Act, and it was resolved to recommend that the names of Messrs. George Francis Brown and Albert Spruce be restored to the Register of Veterinary Surgeons.

Mr. MULVEY: I move that the report be adopted.

Maj.-Gen. THOMSON: I second that.

The PRESIDENT: Are there any remarks upon the report?

Mr. CARTER: I would like to ask a question with regard to the recommendations on the subject of unqualified assistants. It does not clearly define their duties. Do we understand that any gentleman having an unqualified assistant who is assisting in his practice is committing a breach of the bye-laws, or does the recommendation simply refer to men who have got assistants managing branch practices?

The PRESIDENT: It refers to the employment by veterinary surgeons of unqualified assistants in the prosecution of their profession.

Mr. CARTER: I am only asking for information.

Mr. TRIGGER: I was not present, but I do not think I read it in that way. If I remember rightly the recommendation distinctly states: "leading the public to believe that they are qualified." It does not prevent men employing unqualified assistants as long as they make it known that they are unqualified.

The PRESIDENT: The recommendation is as follows. "It having been brought to the notice of the Registration Committee that a considerable number of veterinary surgeons are employing unqualified assistants in ways calculated to lead the public to believe that these assistants are qualified to practise veterinary medicine and surgery, the Committee are of opinion that the time has arrived for taking definite action to put an end to this objectionable practice of covering."

Mr. TRIGGER: That is my point; that is exactly what I said.

Sir JOHN M'FADYEAN: I think that this is a question upon which it is very desirable that there should be no misunderstanding. I think what should go out to the profession is this, that provided this passes the Council we are prepared to take action against any member of the profession who employs an unqualified assistant to do the work which is generally done by a qualified assistant. I take it that a person employing an unqualified assistant in that way would not have a good defence if he merely said that he had done nothing to lead the public to believe that his assistant was qualified. My own point of view is that anybody who employs an unqualified person to do veterinary work implies that he is qualified; and I venture to remind this Council that there is, or was at any rate, a pretty widely expressed feeling that this Council did less than its duty in not putting into the Bill which is now before Parliament a clause to the effect that practice by unqualified persons

should be prevented; that is to say it was suggested that we ought actually to seek powers.

Mr. THATCHER (Solicitor): It is not in the Bill; it was in the original draft.

Sir JOHN M'FADYEAN: that we ought actually to seek powers to proceed against unqualified persons when they were practising on their own account. Is there anybody here who has the courage to say that if it be an offence for an unqualified person to practise on his own account the offence is any less when he does it under cover of a Member of this College? In my opinion it is high time that the practice of employing unqualified assistants was stopped.

Mr. MULVEY: I have nothing to say on the merits of the case, but I must point out that this clause was originally in the Bill as presented to Parliament.

Mr. THATCHER: As presented to the Privy Council.

Mr. MULVEY: And that the Privy Council ordered that particular clause to be eliminated. I am also of opinion that, if you enforce a clause of this kind, on an appeal to the Privy Council you would lose the case.

Sir JOHN M'FADYEAN: Might I have the permission of the Council to make an explanation that appears to be necessary? Nothing similar to this has been struck out of the Bill. What we are desiring to strike at now is not the practice of veterinary medicine and surgery by unqualified persons, but the action of qualified members of the profession leading the public to believe that unqualified persons are qualified.

Mr. TRIGGER: I think the recommendation is quite right as it is now. As it is now it is quite sufficient.

Mr. MULVEY: I think you will have very great difficulty in proving that certain members who are employing these gentlemen do lead the public to think that.

Sir JOHN M'FADYEAN: Then they will be immune from attack; they cannot be proceeded against.

Maj.-Gen. THOMSON: I think perhaps a remark or two might elucidate this point at the present moment. I do not think I shall be out of order if I mention that in the discussion on this particular subject yesterday in the Registration Committee, the unqualified assistants who were aimed at more particularly were those who were employed in managing branch practices (Cries of "No, No.")—branches.

Sir JOHN M'FADYEAN: That was struck out.

Maj.-Gen. THOMSON: I do not say it was carried; I only say it was mentioned.

The PRESIDENT: It was mentioned in the course of the discussion.

Maj.-Gen. THOMSON: I was not going to support that in any way at all; I was only mentioning that that occurred in the discussion at the time as an illustration of the point at issue.

Mr. ROBERTS: I think it is altogether a case of covering, and that is a penal offence under our law. I also think that a great number of these men are covered by veterinary surgeons, and the public do not know it. They have no means of telling whether or not they are qualified men. Several of them exist round my district, and I am quite sure the owners of animals very often employ them for the treatment of their animals believing them to be qualified veterinary surgeons.

Mr. MASON: There is only one remark I should like to make. We know that many men are employing unqualified assistants. Is there to be any time limit allowed for some very old and valuable servants that some veterinary surgeons have in their employment at the present moment? Some of them are most respectable and good men, and educated, too. Is there to be any time limit given to the profession, or is this to become operative at once? It might come up perhaps in three months time or at our next meeting. Are gentlemen who have been in the habit of employing un-

qualified assistants to have any time limit? or is this to commence from the moment it is carried?

Sir JOHN M'FADYEAN: The time limit is in the Act in the original Act.

Mr. TRIGGER: I think as the resolution stands now it is all that is necessary. It is a warning.

Mr. LAWSON: The question to me is, What is an unqualified assistant? I take it that he is a gentleman who represents the principal, and if so he is doing wrong, especially if he manages branch practices under another name. Of course the man, the assistant, whom you have on your premises who is sent out to wash dogs and give ordinary colic medicine and that sort of thing is not an assistant. He is simply a temporary assistant—a servant.

Mr. STOCKMAN: There is no proposal to prosecute such a man.

The resolution for the adoption of the report of the Registration Committee was then put and carried; and on the motion of Mr. Mulvey, seconded by Maj.-Gen. Thomson, authority was given for the seal of the College to be affixed to the various orders for prosecution mentioned in the Report.

EXAMINATION SYLLABUS COMMITTEE.

The PRESIDENT: A meeting was held yesterday of the Sub-Committee appointed to consider the syllabus. A certain advance was made in the examination of the syllabus, but the Sub-Committee deferred any report until they are able to complete the examination of the syllabus.

EXAMINATION COMMITTEE.

Mr. VILLAR read the following report of the meeting of the Examination Committee held on Thursday, 11th April:—

Correspondence.—Letters (Jan. 15, 1912, and March 16, 1912), were received from Mr. W. J. Easton, of Natal, asking for an exemption to be made from the First Professional Examination in favour of a candidate who had passed the First Science Examination of the University of the Cape of Good Hope.

It was resolved that the Secretary be instructed to reply that such an exemption is not possible under the Bye-laws of the College.

Resolution of Association of F.O.H. The following resolution was considered:—

"That the members of the Association of Veterinary Officers of Health beg to request the Council of the Royal College of Veterinary Surgeons, and the Governing Bodies of the various Veterinary Colleges to consider the advisability of treating those branches of the profession relating to public health—meat and milk hygiene—as a special subject."

It was resolved (a) That the matter be deferred until the special Sub-Committee on Examination Syllabuses now sitting considers these matters.

(b) That the Secretary be instructed to inform the Association that any views which they would put in writing on the matter would be considered by the Sub-Committee.

Educational Certificates.—Educational Certificates numbered 1,250 to 1,267 were considered and approved.

Jubilee Memorial and Bursary Examination.—It was resolved that the date of the Jubilee Memorial and Bursary Examination be fixed for Thursday and Friday, August 1st and 2nd next.

Preliminary Educational Examinations.—The Secretary reported:—

(i) A resolution passed by the General Medical Council to the effect that after 1913 the following Preliminary Educational Examinations would no longer be recognised as qualifying for registration as a medical student: The Junior Local Examination of the Uni-

versity of Oxford; The Junior Local Examination of the University of Cambridge; The College of Preceptors Preliminary Examination for Medical Students; The Educational Institute of Scotland Preliminary Examination; The Royal College of Physicians and Surgeons in Ireland Preliminary Examination; The Intermediate Education Board of Ireland Middle Grade Examination.

(ii) That he had received an application from the Educational Institute of Scotland requesting to know the views of the Council with regard to the continued recognition of their Preliminary Examination for Veterinary students.

After discussion it was resolved that the consideration of the matter be deferred until the next meeting of this Committee.

On the Motion of Mr. VILLAR, seconded by Mr. McKINNA, the Report was received and adopted.

PARLIAMENTARY COMMITTEE.

Mr. GARNETT read the following Report of the Meeting of the Parliamentary Committee held on Thursday, April 11th, 1912:—

Swansea Corporation Bill.—The Secretary reported the receipt of letters from the Swansea Corporation, stating that the Corporation could not see their way to assent to the suggested alteration in Clause 107 of the Bill.

Sales for Agricultural Purposes Bill.—A letter was received from Mr. L. C. Tipper, calling attention to this Bill, but it was resolved that no action be taken in the matter.

Coal Mines Act Regulations.—The Solicitor read a letter received from the Home Office, stating that it was not in contemplation to prepare any further regulations at present, but that the College would be consulted and their suggestions received if, and when, such regulations were drawn up.

Patent Medicines.—The Solicitor read a letter received from the Home Office, stating that a Select Committee would shortly be appointed to consider the question of Patent Medicines, and that if the College wished to submit evidence, communications should be addressed to the Clerk of the Committee.

It was resolved that the President, Prof. A. E. Mettam, be requested to prepare evidence, and to undertake the duty of appearing before the Select Committee to express the views of the Council upon the matter.

Public Bills.—The following Public Bills were considered: Dogs (Protection) Bill; Protection of Animals (Scotland) Bill; and Interpretation Bill.

It was resolved that with regard to the Interpretation Bill the Solicitor be instructed to call the attention of the promoters to the two additional Supplementary Charters of 1883 and 1892, and the Act of 1901 of the Royal College of Veterinary Surgeons for insertion in Clause 87.

Mr. GARNETT: In moving the adoption of the Report, it will spare time if I point out at once with regard to the Swansea Corporation Bill that the Solicitor, as instructed yesterday by the Committee, has found out the position in which this Bill now is, and he reports that it has passed its second reading. If there is a feeling that this should be proceeded with it is for you gentlemen to say. With regard to patent medicines, if these Minutes are confirmed I propose, after they have been adopted, to move a resolution embodying the opinions of the Council with regard to the sale of patent medicines.

Mr. McKINNA: With regard to the Swansea Corporation Bill, has it yet gone before the Committee of the House of Commons?

Mr. THATCHER: It has not been referred as yet to any special Committee. It will go before the Committee

of Selection, as it is called, and then it will go to the Committee in rotation. I might venture to suggest, in reference to this, that all Bills of this class are submitted to the Parliamentary Agent of the Local Government Board, and on a previous occasion he suggested to me that if this Council at any time had any objection to any Bill it would be well to consult him and to let him know about it first.

Mr. McKINNA: I hope instructions will be given by the College to do that—that our Solicitor be instructed with reference to this particular Bill, because I think it is very important that we should give our opposition, if I may use such a word, and express that feeling with reference to the word that we all of us objected to yesterday.

The resolution for the adoption of the Report was then carried unanimously.

Mr. GARNETT: I beg leave to propose: "That this Council is of opinion that all patent medicines should have a full description on each package showing the quantities of every constituent contained in the preparation." I merely move that as a formal resolution to strengthen your hands, sir, when giving evidence before the Select Committee.

Mr. ROBERTS: I have pleasure in seconding that motion.

The resolution was then put and carried unanimously.

ANNUAL FEE COMMITTEE.

Sir JOHN M'FADYEAN read the following report of a meeting of the Annual Fee Committee held on Thursday, April 11th, 1912.

Veterinary Surgeons Act Amendment Bill.—The Solicitor reported that the Veterinary Surgeons Act Amendment Bill had been read a first time on February 19th.

Sir JOHN M'FADYEAN: I beg to move that the Report be received and adopted.

Major-Gen. THOMSON: I second that.

Mr. McKINNA: Is there any chance of the Bill coming on? (Laughter.)

The PRESIDENT: You should know, Mr. McKinna.

Mr. SUMNER: Home Rule!

The resolution was put and carried unanimously.

MELBOURNE UNIVERSITY DEGREE COMMITTEE.

The SECRETARY read the following report of a meeting of the Melbourne University Degree Committee held on Thursday, April 11th, 1912:

Western Australia Act.—The Secretary submitted a communication from the Colonial Office containing a copy of an Act to regulate the practice of veterinary surgery, and for other relative purposes, passed by the Legislative Assembly of Western Australia on the 31st December, 1911.

And it was resolved that the Secretary be instructed to acknowledge the receipt of the communication with thanks.

On the motion of Mr. Mason, seconded by Mr. Mulvey, the Report was received and adopted.

APPOINTMENT OF EXAMINERS IN FRENCH AND GERMAN FOR THE JUBILEE MEMORIAL EXAMINATION.

The PRESIDENT: As the Council know, the candidates for the Jubilee Memorial Prize must pass an examination in a foreign language, French or German. At the previous examination this Council appointed M. Barlé to conduct the examination in French. I am not aware whether this gentleman is able or willing to examine in both French and German.

Sir JOHN M'FADYEAN: If my memory does not mislead me, the gentleman whose name you have mentioned was not employed by us directly, but through the Royal College of Preceptors. I would suggest we follow the same procedure on this occasion, and that we ask the

Royal College of Preceptors to be good enough to set the questions and examine the papers in French and German; and I move accordingly.

Major-Genl. THOMSON seconded the motion, which was carried unanimously.

APPOINTMENT OF SCRUTINEERS.

The PRESIDENT: At this meeting it is usual to appoint the Scrutineers for the ensuing election. The counting of the votes will be done at the College, but the declaration of the poll will be made at the annual meeting wherever it happens to be held. Mr. Bullock has given me a list of names of gentlemen, some of whom have officiated before and some of whom have not. The names are: Messrs. T. C. Minett, E. A. Prudames, B. Gorton, W. L. Harrison, F. T. Trewin, E. P. A. Offord, W. A. Pool, J. T. Edwards, H. A. MacCormack, V. S. M. Cope, H. A. Lake, J. de Meza, H. B. Nixon, C. W. Perrin, A. H. Towne, and J. Willett. There are sixteen names. We must have at least a dozen, and it is as well to have a certain number over and above the minimum number that we require.

Mr. McKINNA: I propose that those gentlemen be elected.

Mr. MULVEY: Are they the names of members who have officiated before?

The PRESIDENT: Five of them have officiated before.

Mr. ROBERTS: I second the motion for their election. The resolution was then put and carried unanimously.

NOTICE OF ALTERATION IN BYE-LAWS.

Dr. BRADLEY: I wish to give notice of an alteration of Bye-law 59, so that it shall read in these terms:—"The Examinations for the Diploma of Membership shall be held in each city in which there is situate an affiliated Veterinary School twice during each year, namely, in July and December. At the quarterly meeting of Council held in July in each year, the Council shall fix the dates of the Membership Examinations to be held during the following December and July."

The PRESIDENT: Prof. Bradley has suspended his notice of motion, and it will come up for discussion in October because sufficient time has not elapsed between this meeting and the next meeting of Council.

OTHER BUSINESS. ANNUAL DINNER.

The PRESIDENT: Is there any other business.

Mr. MULVEY: I regret to say that during the last few years the R.C.V.S. has not thought it advisable to hold an annual dinner, but as this year the annual meeting is to be held in Ireland I think that the opportunity arises for reviving that festival. I therefore propose that the annual dinner of the R.C.V.S. be held in Dublin.

Mr. TRIGGER: Are you going to give a grant?

Mr. MULVEY: Do not ask questions.

The PRESIDENT: We have not asked for one.

Mr. STOCKMAN: I beg to second the motion.

The PRESIDENT: The motion is that the annual dinner be held in Dublin on the evening of June 5th next.

The resolution was put and carried unanimously.

This concluded the business of the quarterly meeting of Council.

SPECIAL MEETING.

Immediately following the quarterly meeting, a special meeting of Council was held. The President (Professor A. E. Mettam) occupied the chair, and the same members were present as at the quarterly meeting.

MINUTES.

The minutes of the last special meeting were, on the motion of Mr. Abson, seconded by Mr. Sumner, taken as read and confirmed.

ALTERATIONS TO BYE-LAWS 56-84.

Mr. VILLAR moved the following alterations to Bye-laws 56 to 84, of which due notice had been given:—

56. A Session shall be a period of not less than thirty weeks, exclusive of the recognised holidays of the Institution at which the student shall have studied.

57. The Examination for the Diploma of Membership shall be held in each city in which there is situate an affiliated Veterinary School twice during each year as follows: In England and Ireland in July and December, and in Scotland in May and December. At the quarterly meeting of Council held in July in each year the Council shall fix the dates of the Membership Examinations to be held during the following December, May, and July.

58. An Examination fee of five pounds shall be paid for each Examination, and successful candidates for the Diploma shall pay a further fee of one pound for registration.

59. Should a student fail in any examination he shall pay a further fee of three guineas for each re-examination.

60. No candidate shall be eligible for any examination unless the examination fee be paid at least seven days prior to such examination.

61. Any candidate who through mis-statement, error, or false certificate shall seek, or be led, to apply for any examination, shall be prohibited from undergoing that examination, or if he has undergone it, shall not be permitted to enjoy the advantages to be derived therefrom, and shall be declared disqualified for such examination for such a period as the Council shall see fit.

62. Should a candidate conduct himself disrespectfully or otherwise improperly at any examination, the chairman of the class or the delegate or officer of the Council is empowered to stay the examination of such candidate, and report the transaction to the Council, who shall deal with the offender.

63. No rejected student shall be eligible for re-examination unless he produces satisfactory evidence that he has attended a full term of ten weeks at a Veterinary College between the dates of rejection and re-examination.

64. If a candidate who has been rejected at a Final Examination fails to present himself for re-examination within one year (except in case of illness or other cause satisfactorily certified), he shall be precluded from further re-examination.

65. Candidates shall be tested in each subject by a Written Examination where not otherwise specified, and an oral examination on the living or other specimens. Written papers to consist of six questions, but only four to be attempted, except in Class D, when eight questions shall be set, and six attempted.

66. The Written Examination shall commence at 10 a.m. on the days to be fixed by the Council. Each examiner shall set three questions (except in Class D, when each examiner shall set four questions), the answers to which he shall read, mark, and return to the Secretary as soon as possible. The time allowed each subject is specified in scheme set out in Bye-law No. 67. Answers shall be written on one side of the paper only, and each question answered on a separate sheet. Each candidate shall be given an examination number and each paper shall be signed with such number only, and not with the name of the candidate. Passage of papers, references to books or documents, talking, or copying shall render the candidate liable to immediate dismissal from the examination room, at the discretion of the representative or representatives of the Council, present.

67. The subjects for each examination, and the time to be devoted to each subject, shall be as follows:

Examination A.

1. Anatomy of Domesticated Animals:—Bones, Ligaments, Joints, (written, 2 hours; oral, 15 minutes).
2. Chemistry and Elementary Physics (written, 2 hours; oral, 15 minutes).
3. Biology:—Elementary Zoology and Botany (written, 2 hours; oral, 15 minutes).

Examination B.

1. Anatomy of Domesticated Animals (written, 2 hours; oral, 20 minutes).
2. Histology and Physiology (written, 2 hours; oral, 20 minutes).
3. Stable Management and Manipulation of Domesticated Animals and Principles of shoeing (oral only, 30 minutes).

Examination C.

1. Morbid Anatomy, Pathology, and Bacteriology (written, 2 hours; oral, 15 minutes).
2. Materia Medica, Practical Pharmacy, Therapeutics and Toxicology (written, 2 hours; oral, 30 minutes)*
3. Veterinary Hygiene and Dietetics (written, 2 hours; oral 15 minutes).

Examination D.

1. Principles and Practice of Veterinary Medicine; Meat Inspection (written, 3 hours; oral, 1 hour).
2. Principles and Practice of Veterinary Surgery and Obstetrics (written, 3 hours; oral, 1 hour).

* At the Oral Examination two students shall present themselves at the same time, and shall be examined for fifteen minutes by each Examiner.

Examiners.

68. The Council shall appoint a sufficient number of persons to constitute the Court of Examiners, and shall from time to time fill any vacancies which may occur.

69. There shall not be less than two examiners to each subject.

70. An examiner in any one class, shall not examine in any other, in the same set of examinations.

71. Each candidate for the office of examiner shall, at least fourteen days before the date of election, intimate in writing to the Secretary (either by himself, or with his consent, by a member of the Royal College of Veterinary Surgeons), his desire to be appointed, and submit with his application a statement of his qualifications, and a copy of any testimonials he may possess as to his especial fitness for the position he seeks. The name and qualifications of each candidate shall be suspended on the notice board at the College, as and when received, and appear on the circular convening the meeting at which the examiners are to be appointed. Each examiner shall be elected for such period not exceeding three years as the Council may think fit. Each examiner shall be eligible for re-election. Any examiner may be removed by the vote of two thirds of the members present at any meeting of the Council, to be confirmed by a special meeting called for the purpose.

72. Every member of the Court of Examiners shall be entitled to such fees as shall from time to time be fixed by the Council.

73. Each Class of the Court of Examiners shall elect a chairman from amongst its members. In the event of an examiner being unable to attend at any centre, the President, or, in his absence, the Chairman of the Examination Committee or failing these the Chairman of the Class in which the vacancy occurs, shall have power to

select a substitute to act in his stead at each centre at which the examination is to be held.

74. Local Secretaries to the Court of Examiners shall be appointed by the Council, and shall not be eligible to act as examiners. Such secretaries, acting on the instructions of the Secretary R.C.V.S., shall be responsible for the arrangements of, and provision of specimens for, the Examinations at each centre in England, Scotland, and Ireland respectively.

75. The marks to be used by the examiners in the record of examinations shall be indicated by numbers. One hundred marks shall be the maximum in each subject. The written and oral sections of the examination shall be taken conjointly for the purpose of estimating the result of each examination. An aggregate in the written and oral portions of forty-five per cent. in each subject shall qualify for a pass. Sixty per cent. in each subject shall qualify for Second Class Honours, and seventy-five per cent. in each subject shall qualify for First Class Honours.

76. Each student shall be examined in each subject of his Class, and at the conclusion of the examination the examiners shall confer, and the sense of the whole shall be taken as to the qualifications of the student.

77. Should the result of the examination of any candidate appear doubtful to the examiners, they may re-examine him. The award of marks made by the examiners shall be final.

78. The Local Secretaries to the Court of Examiners shall immediately on the conclusion of the examination notify in writing to the Council the names of students who have passed the examination and specify those who have gained honours.

79. A report of each examination shall be drawn up and signed by the Chairman of each Class and shall be transmitted to the Council, stating the number of successful candidates, and the general standard attained in each subject, and referring to any other matters which it is desirable should be notified to the Council.

80. Copies of examination record sheets shall be supplied to the Principals of each school.

81. One or more Members of Council shall be delegated to attend each professional examination. The travelling expenses of the delegates together with an allowance of one guinea per night spent away from home on the business of the examinations shall be defrayed out of the College funds.

82. Subject to the preceding Bye-laws as above, the chairman of each class of the examiners may refuse admission, during examination, to any person whose presence may be deemed objectionable.

83. The President, or in his absence the senior Vice-President, may direct a Special Court of Examiners to be holden on any emergency.

Admission to Membership.

84. No student shall be entitled to receive the Diploma, or have his name entered on the Register of the Royal College, until he has completed his twenty-first year, but he may present himself for his Final Examination, provided he would complete his twenty first year before the date of the next Examination to be held at the centre where his course of studies has been pursued.

Mr. VILLAR said: In my capacity as Chairman of the Examination Committee I beg to move the alterations of certain Bye-Laws connected with the examination of students. The suggested alterations have all been exposed in the Council Room for six months, with one exception, in regard to which it was found necessary to make a further alteration, and for that reason my motion was suspended for a further three months. The second alteration which it was considered desirable to make was in Bye-Law 62, which now reads:

"Should a candidate conduct himself disrespectfully or otherwise improperly at any examination, the chair-

man of the class or the delegate or officer of the Council is empowered to stay the examination of such candidate, and report the matter to the Council who shall deal with the offender."

In submitting to you this motion for the alteration of Bye-Laws I would point out that although there are no very great alterations made, the matter has been thoroughly considered in Committee, and it is as a result of such Committee's deliberations that they have been suspended and that I ask you to permit these alterations of Bye-Laws to be made. The view was that as they are now placed there is a certain sequence of ideas in the Bye-Laws as they follow one another; they are not put, if I may say so, higgledy-piggledy as they were and as they are in our present Register; and it is chiefly to remove this somewhat chaotic condition that these alterations have been made. I beg to move the alterations.

Mr. McKINNA: I beg to second that.

Mr. MULVEY: The question I wish to ask, Sir, is as to the interpretation of the words at the end of Bye-Law 73: "At each centre at which the examination is to be held." Does that mean that in the event of the temporary indisposition of the examiner, say, who has examined in London, who is temporarily indisposed and who does not feel that he will be able to examine, say, in Liverpool or any other centre on the following day, that he is to be precluded from going on with the examinations at the other centres? That is what I wish to know.

Mr. McKINNA: He has power to get a substitute.

Mr. MULVEY: It does not say so. It is not clear enough. Does it mean at only one centre, or does it mean that he is to be precluded from conducting the examinations at the whole of the examination centres; because if so it is my intention to move that those words "At each centre at which the examination is to be held" be eliminated.

Sir JOHN M'FADYEAN: May I ask the President whether it is not a fact that the Council passed a Resolution recently which has practically the same effect as the altered Bye-Law would have, namely, that if the examiner were not able to complete the circuit a substitute to do the whole round of the examinations was to be appointed? I merely ask the question.

The PRESIDENT: Yes.

Sir JOHN M'FADYEAN: So that Mr. Mulvey is mistaken in supposing that this is new.

Mr. MULVEY: Then, Sir, I will proceed to move as an Amendment that those words at the termination of Bye-Law 73 be eliminated: "At each centre at which the examination is to be held." I do so because I consider it would be most unfair to the examiners or to an examiner who through temporary indisposition might be precluded from attending at any one centre, that he, although he has made his arrangements for conducting the examination, is to be precluded from going the round or from following up the examination at the other centres. Personally I can see no reason why an examiner should not be selected on the spot, wherever the examination is held. For instance, at Liverpool there are plenty of men who can temporarily do the work, or at Dublin or any other centre, without having to appoint them to go the whole round. I know this, that certain of the examiners feel this matter very acutely; and without going further into the matter I simply move that those words at the end of Bye-Law 73 be eliminated.

Mr. GARNETT: I beg to second Mr. Mulvey's motion. I do so for this reason—that this Bye-Law practically prohibits the class, where the full body of examiners have held their examination at one centre from being completed. Take for instance London; the whole body of examiners take their class and examine their students. One of them falls sick, and therefore he stops the whole of the examinations in that class through all the other

centres. You are tying your hands in such a way that it would make it illegal to appoint a man in his place even if he was taken sick. Now let me give you another instance, to show you how impracticable this Bye-Law would be if it were carried to-day. Once when I was a delegate at Edinburgh we received a telegram from one of the examiners who had been present at one of the other centres saying that it was impossible for him to be in Edinburgh, and we had to find on the spur of the moment another examiner to make that examination legal. Although that gentleman very kindly came, at great inconvenience to himself, and sat at the table and examined the students, it was impossible for that man to go to the other centres; and it would make this Bye-Law, if it is carried into effect and made a hard and fast one such as it is now proposed to be, to my mind very absurd indeed. We must have some elasticity. You must give some power to the Chairman of the Examiners, from local Secretaries and your delegates to substitute examiners in cases of emergency, otherwise you are going to invalidate the whole of that examination in that centre.

Sir JOHN M'FADYEAN: Sir, I have no very strong feeling on this matter, but I think it is right that both sides of the question should be put before the Council. As you, sir, have told us, there is in existence a resolution recently passed which has practically the same effect as this Bye-law will have if we alter it in the manner suggested. I believe that the reason for passing the resolution to which I refer was that in practice serious inconvenience was sometimes caused by the fact that examiners from other causes than illness occasionally declared that it was impossible for them to attend at one particular centre to examine the students. They were quite prepared to attend at all the other schools, but they had an engagement which they wished to fulfil on that particular day. Now I do not think it is good that that should occur frequently. We all admit the desirability of having our examinations as uniform as possible in the different centres; and if we make it easy for an examiner to absent himself to fulfil some other engagement—to absent himself from the examination at one particular school—it means that on the spur of the moment one school has to have a special examiner in that particular subject. It does not seem to me that there is any very great hardship in this. I admit that it would be a hardship if an examiner, through illness that incapacitated him only for a few hours or a day, should be prevented from participating at all in any examinations at that time, but I believe that is not a thing that has very frequently happened; and I am not able to agree with Mr. Mulvey when he asks the Council to believe that it is always an easy matter to find in any one of the cities in which our examinations have to be conducted an examiner able to step in and take the place of any one of the regular examiners who may be absent through illness or not. That was not my experience when, as President of the Council, it was once or twice my duty to have to find a substitute. It must be remembered that to act as an examiner in some of the centres actually involves a loss to the examiner. I remember on one occasion I endeavoured to secure the services of one or two eminent men to act as examiners on the occasion of a vacancy, and when I had to tell them that it was only for one day and at one centre, they said, "No, thank you; it is not worth my while." And really I must ask the Council to take that into consideration—that it is not reasonable to expect a first class man to throw up engagements which he may have and come to do our work, and find that when he has done it he is actually out of pocket. It would be very good news if it were a fact that in Liverpool, or Edinburgh, or Dublin, or London, one can at a few hours notice find an efficient substitute for any one of the appointed examiners. I was wondering about my own

particular subject. Supposing the examiner in veterinary pathology happened to be taken ill, and it was Mr. Mulvey's duty to appoint somebody in Liverpool to conduct the examinations—I do not mean anything invidious when I say Liverpool, I will substitute Glasgow if you like, or Edinburgh, either—because he has got to keep outside the schools. I do not really see that there is any difficulty about carrying out this bye-law. I was not quite able to follow either Mr. Mulvey or Mr. Garnett when they represented that the thing was impracticable. It seems to me to be perfectly practicable. You have got to contemplate the case of an examiner being ill, or being unable to attend from any cause whatever. Well, at least you have got to appoint an examiner for one particular day, and my point is that it is easier to get an examiner to go the whole of the remainder of the round than it is to get an efficient examiner to act for one day.

Mr. SHIPLEY: This seems to be rather a difficult question. I have been looking through this new Bye-law and it says: "In the event of any examiner being unable to attend at any centre." I understand this provision has to be made in case a man is taken ill.

Mr. MCKINNA: Or for any other reason.

Mr. SHIPLEY: Suppose he is taken ill at the end of the journey, at the last place of examination, it goes on to say then "The Chairman of the class in which the vacancy occurs shall have power to select a substitute to act in his stead at each centre at which the examination is to be held," but the examination has then been held.

Sir JOHN M'FADYEAN: It is not "to be held" if it has been held. It is the place at which "the examination is to be held." If it has been held it does not apply.

Mr. GARNETT: My contention simply is that if a man is substituted under any circumstances and this Bye-law is in force the whole of that class of the examination is invalidated. The same man must examine all round or not at all.

The PRESIDENT: Is there any further discussion?

Mr. MULVEY: If there is no further discussion, I think I have the right as the proposer to say a few words in reply. I simply want to point out that to my mind if these words are left in it will render this Bye-law absolutely unworkable. I must say that it would be far more easy to appoint an examiner at any one centre than to ask an examiner without preparation or without prior knowledge to go the whole round. I think if those words are left out the Bye-law will be workable, otherwise if they are left in you are going to spoil the whole thing.

Sir JOHN M'FADYEAN: Might I point out the exact phraseology of the thing? Mr. Mulvey seems to have assumed that the President, or whoever is empowered to fill up the vacancy, must act in this way. But that is not so. It says he shall have the power to do it.

Mr. MULVEY: If he does not have power the whole thing is nugatory.

The PRESIDENT: Mr. Villar, do you want to reply?

Mr. VILLAR: Yes, Sir. I have the greatest respect for Mr. Mulvey's opinion, especially on examination matters, because you know that he was Chairman of the Examination Committee for very many years. But it seems to me that this Bye-law is specially framed so as to render it permissive; it is not compulsory. As Sir John has pointed out, it simply gives the Chairman of the Examination Committee or the Chairman of the class the power to select. It does not say he shall exercise that power. I cannot help feeling that Mr. Mulvey, and for that matter Mr. Garnett, are reading difficulties into this Bye-law which do not exist.

Mr. MULVEY: I asked the question—what was the intention of those who moved it?

Sir JOHN M'FADYEAN: Although I adopt the same interpretation of the matter as Mr. Villar does, I beg to move that Mr. Villar should sanction the omission of the

words "At each centre at which the examination is to be held." That will leave matters exactly where they are; that is to say the effect will be the same as it is now under the resolution as we passed it. Under the resolution as it stands at present if an examiner is unable to act for the whole round a substitute for the whole round has to be found.

The PRESIDENT: Do you, Mr. Villar, move the adoption of the alteration of these Bye-laws with the deletion of the last line of Bye-law 73?

Mr. VILLAR: Yes, Sir, I am prepared to do that. I move their adoption, subject to the deletion which Mr. Mulvey has proposed.

Mr. MCKINNA: I second that.

Mr. TRIGGER: Have we power to do that until it has been suspended for three months?

The PRESIDENT: Yes; I have already taken advice on the matter.

The resolution was then put and carried.

Dr. BRADLEY: It occurred to me, Sir, that if I am in order I might move the alteration of Bye-law 59 of which I gave notice at the Quarterly Meeting. It is a pure technicality and of course I shall have to abide by your ruling, but it may save time on a merely non-controversial point if I move as an amendment to Bye-law 57 the amendment of which I have given notice. The old Bye-law is No. 59.

The PRESIDENT: It is merely that instead of being an amendment to Bye-law 59 the notice of motion which Prof. Bradley has given is an amendment of Bye-law 57 in order to give it its proper number.

Sir JOHN M'FADYEAN: It is illegal at present.

The SOLICITOR: This is consequent upon the resolution you have just passed. It is a mere alteration of description only.

Mr. STOCKMAN: It will have to be suspended?

The SOLICITOR: Dr. Bradley only wants to alter 59 to 57.

Sir JOHN M'FADYEAN: I am not objecting to it. I approve of it.

Mr. VILLAR: It now becomes my duty to suggest a date for the Confirmatory Meeting for passing the alterations of Bye-laws. I believe it is provided by our Act that such meetings shall take place somewhere between the 7th and 14th day after the meeting. I have consulted some of the gentlemen round me, and I find that Tuesday, the 23rd inst., would probably be a convenient day on which we should get a quorum. I therefore beg to move "that the Confirmatory Meeting be held on Tuesday, the 23rd inst., in this room."

The resolution was seconded and carried unanimously.

On the motion of Dr. McI. McCall, seconded by Mr. Abson, a hearty vote of thanks was accorded to the President for his conduct in the Chair, and the meeting terminated.

VICTORIA VETERINARY BENEVOLENT FUND.

The Quarterly meeting of Council of the Fund was held at 10 Red Lion Square, Holborn, on Thursday, April 11th, 1912. There were present: Messrs. H. Sumner, S. H. Slocock, F. Garnett, H. MacCormack, S. Stockman, F. Hobday, S. Villar, W. J. Mulvey, W. Burt, jun., and W. Shipley, Hon. Sec.

Apologies for absence were received from the President, Mr. Freeman Barrett, and Messrs. J. Dunstan, and Jos. Abson.

Mr. S. H. Slocock, Vice-president, was voted to the chair.

The minutes of the previous meeting were read and confirmed.

A letter was received from Mr. R. Jones, Towyn, enclosing on behalf of the North Wales Veterinary Medical Society a donation of £32 to the Fund. The Council

passed a cordial vote of thanks to the Society for its welcome assistance.

Three fresh applications for relief were considered. In the first case a lady in Ireland, widow of a veterinary surgeon, it was decided to make an immediate grant of £10 to meet pressing requirements and a weekly grant of 7/-.

In the other cases it was felt there was no immediate need for assistance, there being more pressing cases for relief. The limited amount of funds with which the Council had to deal also deterred them from making further grants.

The Secretary was requested to make further enquiries in two other cases which are to stand over till next Council meeting.

It was resolved that if arrangements can be made by the President and Secretary, the annual general meeting of the subscribers to the Fund should be held in Dublin immediately after the annual meeting of the Royal College of Veterinary Surgeon.

A draft of the annual report was considered and adopted.

The receipt of the bequest from the late E. Coleman was reported, and the trustees were desired to invest same in accordance with the instructions of the deceased.

The SECRETARY submitted the list of new subscribers January 1st to March 31st, 1912.

It was noted the Fund was making slow progress, and that every effort should be made to obtain new subscribers.

NEW SUBSCRIBERS.

Ascott, W., Bradford	1	1	0
Bowman, G. E., 173 Woodhouse Lane, Leeds	10	6	
Baxter, J. R., Lechlade	10	6	

Burt, W., senr., Brighton	1	1	0
Burchall, J. J., Barrow-on-Soar	1	1	0
Bloxsome, G., Hove	10	6	
Ballière, Tindall & Cox	2	2	0
Crawford, W., Leeds	10	6	
Clarkson, J., Garforth, Lanes.	10	6	
Clarke, R. W., Wragby, Lincs.	1	1	0
Deighton, P., Selby, Yorks.	10	6	
Day, F. W., Newmarket	1	1	0
Elder, G. H., Taunton	1	1	0
Hallilay, F., Dewsbury	10	6	
Hancock, W. A., Uxbridge	10	6	
Hurndall, J. Sutcliffe, London	1	1	0
King, G. E., Abingdon	10	6	
Lydford, T. R., Castle Cary	10	6	
McCarmick, A., Leeds	10	6	
Mason, H., Cairo	1	1	0
Male, G. P., Reading	10	6	
Mettam, Prof., Dublin	1	1	0
Mitchell, L., Lewes	10	6	
Morgan, P. S., Ross	10	6	
Olver, T., Truro	1	1	0
Pawlett, F. W., York	10	6	
Parker, J. H., Faringdon	10	6	
Price, T. Salisbury, Brixton	2	2	0
Royal Counties V.M.S.	5	5	0
Seton, Prof., Leeds	10	6	
Saunders, A. G., Taunton	1	1	0
Stevens, W. S., Woking	1	1	0
Taylor, H., Hayward's Heath	10	6	
Taylor, H. C., Caistor, Lincs.	10	6	
Woods, W., Wigan	10	6	
Whitemore, H., Langport	10	6	
Willett, J., 6 Harley Place, London	10	6	

W. SHIPLEY, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Out-breaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
G.T. BRITAIN.													
Week ended April 13	18		22				1	9	68	146	3	80	1595
Corresponding week in	1911	17	31	18			6	11			2	40	560
	1910		30	33			4	11				23	159
	1909			43			20	78			14	39	357
Total for 15 weeks, 1912	360		409				55	126	1647	3802	146	939	11979
Corresponding period in	1911	299	465	349	1	18	59	196			287	615	6859
	1910		423	577			107	286			293	346	2626
	1909			599			184	734			891	428	3929

* Counties affected, animals attacked: Essex 2; London 6; Warwick 1.

Board of Agriculture and Fisheries, April 16, 1912.

Outbreaks											
IRELAND. Week ended April 13				...	...	...	...	...	...	8	10
Corresponding Week in	1911	...	...	...	...	...	...	1	...	4	3
	1910	...	...	...	...	...	...	...	1	9	7
	1909	...	...	...	...	...	...	...	2	7	1
Total for 15 weeks, 1912	...	1	1	...	...	...	...	...	27	221	73
Corresponding period in	1911	...	8	3	...	...	1	2	36	213	41
	1910	...	4	6	...	...	...	...	26	270	20
	1909	...	2	2	...	...	...	...	34	246	10

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 15, 1912
 NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Personal.

CALLINGHAM—CRAWFORD.—On the 10th inst., at St. Peter's Belsize Park, N.W., by the Rev. F. Hugh Lacey, Roland Robert Callingham, eldest son of the late Robert Callingham, 22 Sussex Place, Regent's Park, and of Mrs. Callingham, 132 Fellows Road, N.W., to Loris, only daughter of the late Major F. F. Crawford, A.V.C.

Mr. EDWARD LAWRENCE, M.R.C.V.S., of Swindon, who died last December, left estate of the value of £29,271.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, April 16.

REGULAR FORCES. ARMY VETERINARY CORPS.

Maj. H. A. Sullivan retires on retired pay. Dated April 17.

VIVISECTION AND THE VETERINARY PROFESSION.

Sir,

I am the individual who wrote the letter that opened up the discussion in *The Referee* about unqualified veterinary surgeons, and I should like to express my opinion on some of the remarks in the article entitled "The extension of veterinary practice" and also on some other points.

You state that the sixpenny medical man and the club doctor are hard worked and poorly paid; as a matter of fact, gentlemen in this particular branch of the profession make, as a rule, far more money than the ordinary practitioner, and I fail to see why this club practice could not be adopted by qualified men in the veterinary profession. Surely it would pay a vet. to take, say, ten shillings a year from his poorer clients to look after their stock: anyhow, it might be worthy of consideration.

You state that many owners of animals never call in a veterinary surgeon because they cannot afford it, in my opinion that is all bosh. It is simply because any layman can do absolutely what he likes in the administration of drugs or operations to animals and the law cannot stop him.

The Veterinary Council itself condones such proceedings by allowing qualified men to employ unqualified assistants and permitting them to advertise for such persons in the public press.

I may state that not the slightest interest was taken by the veterinary profession concerning the discussion that was opened up in *The Referee*, and so the matter was dropped.

Possibly you will ask what business it is of mine, and I reply that as a member of the public I have a right to express my opinion with regard to the brutality which daily occurs on dumb animals through the reasons I gave in my first letter.

I am no soppy sentimentalist. I have ridden, hunted, and shot all my life, and my brother was master of hounds, and I at present command a transport section in the Territorial Army, so I should know something of what I am writing about.—Faithfully yours,

PATE, J.P.

County of London Magistrates Club.

UNQUALIFIED ASSISTANTS.

Sir,

Your correspondent in the *Veterinary Record* of 13th inst. asserts that a practitioner is not liable to be struck off the Register for employing an unqualified assistant. As that was a very misleading statement I am surprised that it was allowed to pass uncontradicted.

Everything depends on how an unqualified assistant is employed, there being no objection to one dispensing, dressing, giving medicine, rendering first aid in emergencies, and so on, provided always that he does not "act" or "pass himself off" as a V.S. (see Bye-law 110).

You, Sir, state that the Council make no attempt to prevent abuse of the unqualified assistant. I do not know

why that is so, but as they made the bye-law at one time their views must have differed. I have my own reasons for believing that the Council are not actively enforcing Bye-law 110 to such an extent as Bye-law 109, but I do not see how we are to force them to act, other than by bringing some case forward and, if the Council do not act, applying to the High Court for an order for the Council "to show cause, etc." I do not understand legal procedure myself, but no doubt if some members like to take some little trouble the employment of unqualified assistants improperly could be stopped, as it is a matter affecting the public as well as ourselves.—Yours faithfully,

Ealing, W.

F. O. PARSONS, M.R.C.V.S.

SECRET REMEDIES.

Sir,

It would be both useful and instructive to the farmer who experiments upon his unfortunate Live Stock if he got an analysis made of some of the much-advertised Horse and Cattle medicines which he dabbles in! He would find that he was buying Turpentine at £7 per gallon and Epsom salts at £11 per cwt.

The farmer would be very much in pocket if he would study the action of well-known drugs for himself. It would be also much better for the Veterinary Surgeon who is afterwards called in could he be told what the animal had been given, instead of working in the dark as it were.

Let us take a case of obstruction of the bowels, requiring a purgative, which the farmer has treated with no appreciable effect by giving so many of "Somebody's Drinks." He sends for a Veterinary Surgeon who asks what has been given? Has a purgative been given? The farmer does not know whether "Somebody's Drinks" contain a purgative or not. Now if a purgative were given and the V.S. then gives more he probably gives too much; and if no purgative were given the animal might die for want of one.

Then, again, it is often stated that "If they do no good they do no harm." But we would point out that the farmer is given a false sense of security, losing time in getting proper advice and the complaint gaining ground until a qualified man, if called on the scene, is too late to do any good. But these things frequently actually do harm. Repeated doses of Turpentine (disguised and coloured) bring on inflammation of the kidneys. Frequent doses of Salts have caused the death of many an animal, and thousands of animals of all kinds have been destroyed not by disease but by inappropriate medicines. We had an illustration of this recently. A small holder in one of the Southern Counties found his in-foal mare after some hard work suffering from, as he thought, Colic. He rushed into his house and got a Colic drink, of which he had bought a dozen bottles in the local market. He gave the unfortunate mare the contents of one of these bottles, and as she appeared no better, he gave her a second drink and then a third. The mare died as he was giving (or shortly after he gave) the third bottle, and a post mortem examination showed that the mare had not suffered from Colic—she was aborting!

The cuteness of the proprietors of these medicines is wonderful. A short time ago a noted quack had his own wonderful cure for corns. A warning was printed on the label stating that the mixture would burn the hand or skin, and that when applied to the corn it must be done with a stick. This "cure" was nothing less than one ounce of Linseed oil coloured with Judson's Dye. It was sold by the quack at the price of 10s. per bottle, and was considered as "wonderful stuff" by the ignoramuses of the neighbourhood.

A shrewd man must see that it is greatly to his advantage to call in an experienced Veterinary Surgeon as early as possible as the amount of loss caused by the death of one animal would pay the V.S.'s bills for a considerable period.

It is a pity that a law is not made making it a felony for anyone not properly qualified to sell, buy, make, or advertise medicines. It seems rather harsh to suggest such a course, but hard and harsh measures are usually better than mild ones, and the Veterinary Profession, as well as the medical, might then come into its own.—Yours faithfully,

J. F. D. TERRY

55 Southgate Street, Winchester, Hants

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Co. Kilkenny, December 28th, 1907.

The Stock Inspector of the Pastures Protection Board, Singleton, Australia, when ordering (May 17, 1907) 200 doses of "Blacklegoids," stated: "This is the third year I have used your 'Blacklegoids,' with a result far better than I or the owners of the cattle ever anticipated. I do not know of an instance where it did not act as an immediate preventive."

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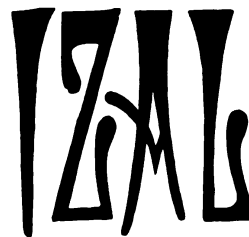
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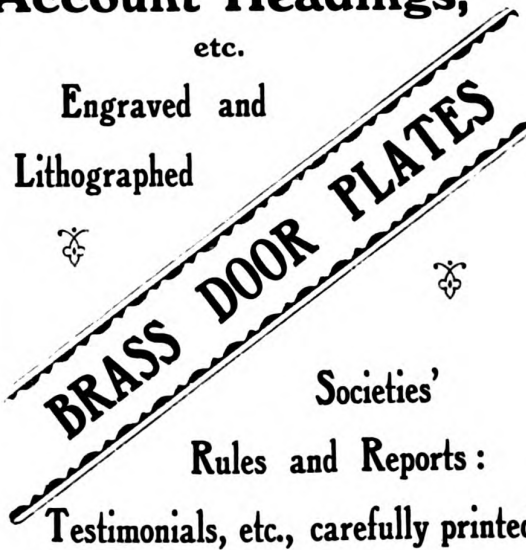
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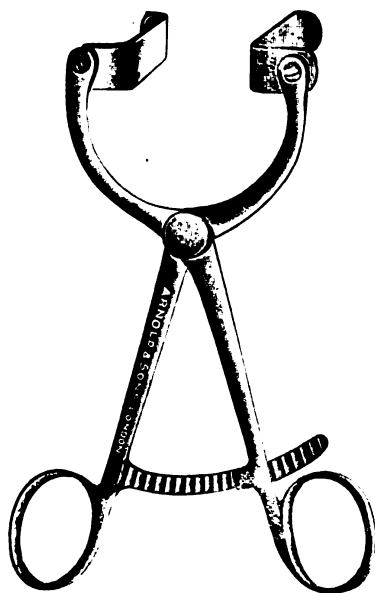
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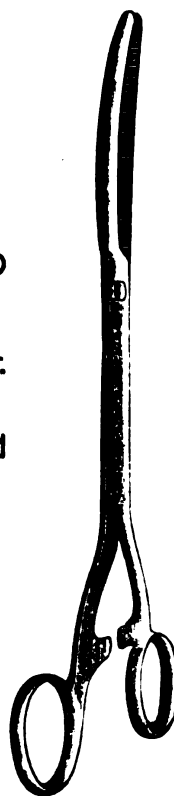


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APRIL 27, 1912.

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South Eastern V.M.A.

THE first General Meeting will be held at the County Hotel, Canterbury, on Wednesday, 8th May. Mr. James Crowhurst, F.R.C.V.S., President, will take the chair at 2-30 p.m. and give a presidential address. Business, adoption of rules and regulations commended by committee: A report of committee and suggested amendments to scale of fees allowed to veterinary inspectors, and other matters. All V.S. under the K.C.C. are particularly requested to be present, and V.S. from adjoining counties are cordially invited to attend.

T. C. TOOPE, Hon. Sec. & Treas.

The Central Veterinary Society

A Meeting will be held at 10 Red Lion Square, W.C. on Thursday, May 2nd, 1912, at 7 o'clock. Agenda. Routine business: Specimens: To consider Mr. H. Gray's Communication, *Re* The Royal Veterinary College. The Election of Fellows to the Council of the N.V.A.

HUGH A. MACCORMACK, Hon. Sec.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1242.

APRIL 27, 1912.

VOL. XXIV.

THE TREATMENT OF CANKER.

Mr. Noël Pillers' paper upon this subject, which we print to-day, has the interest always possessed by independent work upon a difficult question, and perhaps something more. Every veterinary surgeon knows how troublesome and unsatisfactory the treatment of canker is; and though the paper contains no revolutionary innovation, it does introduce a modification of technique which may prove of real value. The drugs used, and the general line of treatment adopted—including the principle of applying the dressings with pressure—are all well known. The exact mechanical device used to obtain pressure—the hard rolls of tow of varying thicknesses—is new, so far as we know; and it certainly seems to permit a more firm and even pressure than would be gained by more haphazard methods of packing the foot. Certainly, also, the treatment has been exceptionally successful in the hands of the few who have yet tried it. Whether it will be equally successful, when practised by a larger number, is open to question.

It is at least possible that a great deal of the success which has hitherto attended the treatment has been due to the care and thoroughness with which all its details were carried out. The paper itself contains ample indirect evidence of this. Mr. Pillers requires "absolute foot restraint, preferably by means of stocks," and he emphasises the necessity for "plenty of uninterrupted time and a strong liking for thoroughness." Lack of these desiderata has accounted for much failure in the past, and will probably cause much more in the future. Many cases are treated—often unavoidably—with inadequate means of restraint and with but scant allowance of time. It remains to be seen whether these cases will derive much benefit from Mr. Pillers' methods applied with less than Mr. Pillers' thoroughness.

Still, the paper is a distinctly valuable one; and should set many men working afresh upon the treatment of canker. It is suggestive in various directions: for Mr. Pillers' remarks upon the use of strong caustics are worth noting, and some of his observations upon the incidence of canker are interesting.

It is curious, for instance, that canker should be held to be increasing in the North M dlands, while it is generally regarded as decreasing in London. In every respect the paper well deserves study, and will ensure its author a future welcome at the Central Society.

A VETERINARY HISTORY.

A Veterinary History of the late War in South Africa will shortly be published by this Journal. The intention is to issue it as a supplement fortnightly, or as opportunity occurs. It will be consecutively paged, and detached for the purpose of binding. The history will be divided into parts, and arrangements for the production of Part I. are now completed.

THE CLAIM OF THE ROYAL VETERINARY COLLEGE TO GOVERNMENT AID.

It is well known that the Governors of the Royal Veterinary College are endeavouring to obtain a grant from Government sufficient to place the oldest of our schools upon a firm financial basis. One might suppose that all veterinary surgeons, and especially all old Camden Town students, would wish the attempt success. Unhappily that is not quite the case. It has occurred to one successful practitioner that the present crucial period in the history of the Royal Veterinary College is the best of all moments for an endeavour to mend his old school according to his own liking—or end it. So much, at least, is clear from the otherwise somewhat incoherent address of which Mr. Henry Gray unexpectedly delivered himself before the Central Veterinary Society at its last meeting, and which appears in another column of this issue.

It is true that the address commences with a profession of agreement that "the Royal Veterinary College should receive liberal financial aid from the State," but this tribute to convention might very well have been omitted. Its insincerity becomes patent when we read what follows; for the substance of the address amounts to a proposal that the College shall be crippled as far as may be, and starved out of existence if possible—unless the Governors can and will remodel it on lines suggested and apparently considered practicable by Mr. Henry Gray. We are asked, "Are we going to meekly allow the College to obtain this grant from the Government and then to continue this competition, unfair now, because we when students supported the College to exist?"—and it is difficult to interpret this not particularly scholarly sentence otherwise than as a trumpet-call to arms. The next sentence contains the modest proposal that

the Central Society should send a deputation to the Board of Agriculture—presumably to oppose “this grant,” of which Mr. Gray has previously professed approval. And finally we are dogmatically told that “The Royal Veterinary College is no longer a necessary institution to the country, as there are several other self-supporting ones that do not enter into competition with the practitioners.” It might fairly be asked how many of our schools do not compete with practitioners, and whether any one can justly be called self-supporting at all. But these and various other statements in the address will be subject matter for criticism at the Central Society’s next meeting. The sentences above are quoted now simply to show their author’s attitude towards the Royal Veterinary College.

Discussion upon this precious “address” stands adjourned to Thursday next, when there will be ample opportunity for testing the accuracy of its assertions, the consistence of its arguments, and the nature of the motive underlying the whole. In the meantime, it is well that all should know how preponderant a part the Camden Town College—the very existence of which we are asked to regard as immaterial to the profession and the nation, unless it can be conducted to meet the approval of a few veterinary surgeons who choose to practise in its vicinity—still plays in veterinary education. Fortunately such demonstration is easy. One of the recent additions to the Register of the R.C.V.S. is a list of the members who have graduated during the preceding twelve months, and in this list the School from which each member graduated is indicated. The list first appeared in the Register of 1908, and has been continued since. The following table, compiled from the Registers shows the number of graduates which each school has turned out, in each separate year and during the whole period:—

	1907.	1908.	1909.	1910.	1911.	Total
London	35	22	42	35	19	153
Dublin	11	13	20	20	24	88
Edinburgh	22	12	17	21	15	87
Liverpool	8	2	7	9	9	35
Glasgow	3	6	7	8	5	29
	79	55	93	93	72	392

Thus, during the last five years, the London College has given us *more than three-eighths* of the new members of the profession. The individual figures fluctuate considerably from year to year; and in two of the years of the period, viz., 1907 and 1909, London supplied more graduates than *any two* of the other Colleges. Again, in either of these two years, if we exclude the School which is second to London for that year (Edinburgh in 1907 and Dublin in 1909) we shall find that London supplied more graduates than *the other three put together*. Still, if we take the full five years’ totals, we do not find that London surpasses *any two* other Colleges together; for Dublin and Edinburgh, with a combined total of 175, somewhat exceed the London one of 153.

But Dublin, Liverpool, and Glasgow combined only total 152 for the five years; and Edinburgh, Liverpool, and Glasgow combined only 151, while London alone totals 153. Thus London, in the last five years, has turned out more men than the three other Colleges in Great Britain put together. Founded 120 years ago, it remains by far the most potent factor in British veterinary education to-day; and whoever affirms it to be “no longer a necessary institution to the country” can only be congratulated upon his hardihood.

DIFFICULT CASE OF PARTURITION IN A CLYDESDALE MARE.

On Thursday morning the 18th inst. we—my son and myself—were called to Mr. Saul Miller’s, of Aspatria Hall, to assist an aged Clydesdale mare to foal. On examination both hock joints and the tail were found presented at the brim of the pelvis of the mare, with the foal lying on its off side transversely, in fact the position was exactly similar to that in the photo. After a good deal of work a strong cord was passed round the lower or off hock joint and gradually manipulated down the shank to the pastern joint, the upper or near leg was treated in the same way, and then by pressing the hock of the off or under leg below the body of the foal and forward—a jolly hard bit of work, the foot was got over the brim of the pelvis bones into the vaginal passage; the other leg was handled in a similar manner, and both hind feet pulled out to the hocks. At this stage the foetus stuck and would not move; further examination proved that there was plenty of room, and no obstruction could be felt as far as could be reached, but from previous similar cases I concluded that the head was turned back over the shoulder, and this proved to be the case on delivery (see photo). A good strong rope was fixed above both hock joints and the other end of the rope tied to a post, and as the mare was lying down on her near side and refused to stand on her feet a moment, the lower end of the post was fixed firmly on the ground, and the upper end pulled carefully and steadily back and down, when the foetus moved gradually into the passage. The bent head pressing against the brim of the pelvis of the mother proved to be the obstruction: by steady leverage the head and neck were straightened out, and delivery accomplished, but immediately after delivery the head fell back into its original position (see photo). It will be seen that the face of the foal is concave on the lower or near side to correspond with the bend of the ribs, in which position it had been developed, whilst the off or upper side of the face is convex. The time occupied in delivery was one hour forty minutes and the mare rallied wonderfully, but 24 hours after she began to sicken, and succumbed about fifty hours after the operation. She was seventeen days overdue of her usual time, was twenty years old, and had always been a successful breeder.



As the foal seemed to me to be a monster for size I had it weighed and measured and photographed, and here are the particulars:—

Length from poll to head of tail	ins. 50
Round the girth	33½
Length of head from poll to nose	18
From withers to foot	44
From hip to foot	40
Round stifle joint	22½
Round hind shank	6
Round fore shank	5½

Weight 156 lb.

My reason for recording the case is that I think the weight and measurements will about constitute a record. According to Fleming's Obstetrics the weight of a foal runs from 31 to 55 kilogrammes, or about 68 lb. to 121 lb., whilst the only measurements named for the foal is length 3½ feet.

The foal was photographed lying on the top of a sheep rack. Note the beautiful pastern joints, it was by a well-bred horse.

HENRY THOMPSON, M.R.C.V.S.

Aspatria, April 22nd.

AN IMPROVED METHOD IN THE TREATMENT OF CANKER OF THE HORSE'S FOOT.

By A. W. NOEL PILLERS, F.R.C.V.S.

I must first thank you for the honour you have done me by consenting to listen to the following short paper. The treatment which I am about to describe was first related to me by Mr. J. B. Chadwick, M.R.C.V.S., of Messrs. J. and A. Lawsons, of Manchester, last year when I was stationed at Sheffield. In addition to giving me particulars of the treatment, the above gentleman

kindly came over to Sheffield and dressed a case which was placed at our disposal by a colleague who does not desire publicity. From that time the treatment was applied by other practitioners in the town with excellent results. Although it is extremely unwise to make any statements with regard to the discovery of a method of treatment without a very careful and systematic survey of the literature of the subject, I am going to be bold enough to place it on record that we are indebted to Mr. Chadwick for this treatment until it is proved that the credit belongs to someone else. The general opinion prevailing in the North Midlands some five or six years ago was that canker of the horse's foot was greatly on the increase and that it was practically incurable. I shared that opinion, after extensive reading, and practising the various recognised methods of treatment. The application of German, French, Swiss and Dutch methods did not give at all satisfactory results. Considering the seriousness of the disease it occurred to me that a committee composed of specialists in histology, bacteriology, pathology and clinical surgery supported financially by owners of commercial horses was a thing to be desired. I regret very much that I have been unable to go carefully into the literature of the subject, but the lack of a complete library is my excuse. I have, however, appended a list of the works which I have been able to consult. A consideration of the evolution of ideas concerning canker treatment during the last fifty years would form an interesting article in itself. There are many very good accounts of the disease in the various text books and periodicals, and many authors have affirmed specific medicaments and methods of dressing. The objection to most of these specifics is that other experimenters have not had the same results, and that in those cases where cures have been effected the time taken and cost of treatment have greatly reduced their real value. I trust the number of cases, treated by different clinicians, mentioned later on, will save the method about to be described from a similar fate. I wish to leave out of consideration altogether the important subjects of etiology and symptomatology and consider only the therapeutics of the disease. I hope to gather a

great deal from the discussion, and I would only ask those who feel inclined to offer adverse criticism to be certain that they have given every detail of the treatment a fair trial.

APPARATUS REQUIRED.

This consists of (1) a plain flat shoe not too wide in the web and rather long at the heels, with a slightly seated foot surface to allow the insertion of iron cross pieces after the shoe has been nailed on; (2) cross pieces of soft iron, two or three in number, shaped somewhat like a letter U with the arms bent outwards. The width should be about one inch, the metal must be soft so that it will bend under the hammer and remain in the desired position; (3) a strong linen bandage to envelope the foot; (4) a small ointment pot containing pure carbolic acid; (5) a box of wound powder containing as its active principle iodoform; (6) smiths tools, foot knives, dressing forceps, probes and spatula; (7) absolute foot restraint, preferably by means of stocks; (8) a large number of hard rolls of tow ranging in cross section from that of a wheat straw up to that of a man's thumb, these are best made by rolling tow tightly on a board or table top. More important than these articles are plenty of uninterrupted time, and a strong liking for thoroughness. The two feet before you show most of the features of the treatment.

METHOD.

Mr. Caulton Reeks, in an article on this subject in his book on the diseases of the horse's foot, says that the principles of treatment to be observed are as follows:—

- (I) The removal of all the horn overlying infected portions of the keratogenous membrane.
- (II) The application of an antiseptic not too powerfully caustic in its action.
- (III) Frequent changes of the dressing in order to insure a maintenance of antiseptis.
- (IV) The application of an adequate pressure to the exposed soft structures.

He then goes on to describe Mr. Malcolm's method of treatment as the most satisfactory, although it fails to satisfy the second and fourth of these important postulates. The hot iron is a most powerful caustic, and the method of dressing does not secure adequate pressure. As far as I can see at present the best method of ful-

filling the desired principles is that devised by Mr. Chadwick. After removal of the shoe the foot is subjected to some softening process. Bran poultices or the foot bath answer the purpose well. The bearing surface of the wall is then reduced as far as possible, and the healthy horn of the sole and frog carefully thinned well beyond the points at which separations are likely to be found. Starting at the lowest point when the solar surface of the foot is in a vertical plane all the under-run horn is removed until blood just appears at the union of diseased and healthy structures. It is important to pay especial attention to the junctions of frog and sole, sole and wall, and cleft of frog. Should the diseased process extend up the wall then the inner aspect of it must be removed so as to allow the hard rolls of tow to be packed firmly in. After removing all the separated horn with as little hæmorrhage as possible, the diseased parts are cleansed with pledgets of tow, and the whole smeared with pure carbolic acid. If there are no lesions up the wall or above the bearing surface of the shoe, this can now be nailed on. The diseased area is then covered with the wound powder and the hard rolls of tow are firmly packed in, starting with those of small diameter and gradually increasing the size employed. Extra long rolls will have to be used in the lateral and median lacunæ, so that the pressure may not be lacking behind the influence of the shoe. Rolls of tow are heaped up until they stand well out from the plane of the sole. The two or three cross irons are then applied and hammered down until firm and even pressure is obtained. Animals often go slightly lame after this process. After two or three dressings, animals are generally too restive for a shoeing smith to hold. A couple of rolls of tow across the posterior aspect, covered by a tight bandage finishes the dressing. Care must be taken to see that there is not a lack of pressure in the region of the wall, as this predisposes to laminal infection.

At the second dressing the above process has to be repeated. The chief point to be observed is the removal of all cheesy material and horn which may appear normal but yet is under-run. Failure to respond to treatment of any area always indicates some error in obtaining pressure or in removing a sufficiency of horn. A case confined to the frog, its junction with the sole and the region of the bars will require dressing every other day for a fortnight, after which it should be treated every third day. The future progress of the case will be indicative of its requirements.

RECORD OF CASES TREATED BY MESSRS. ARBON, CHADWICK AND LAYCOCK.

Consecutive No.	Subject.	Affected limb.	Treatment commenced.	Treatment terminated.	Duration weeks.	Remarks.
1.	B.H.	off hind	—	—	6—7	1st case treated by this method
2.	No. 3324 C.H.	near hind	Jan. 25, '10	Feb. 8, '10	2	
3.	No. 8073 B.H.	"	Feb. 24,	Mar. 30,	5	
4.	No. 8164 Br.H.	"	Mar. 15,	Mar. 29,	2	
5.	No. 4316 B.H.	"	Aug. 26,	Sep. 24,	—	Injured in stocks and sold.
6.	No. 1644 B.M.	"	Aug. 30,	Sep. 25,	—	Sold, aged and severe case.
7.	No. 2641 B.H.	"	Jan. 16, '11	May 3, '11	15½	
8.	Br.M.	both hind	—	—	8	
9.	B.H.	"	—	—	8	
10.	No. 6793 Gr.H.	near hind	April 12,	April 26,	2	
11.	No. 7586 B.H.	near fore	July 7,	July 30,	3	Has broken out 3 times, and treated for 3 weeks each time
12.	No. 2886 B.H.	near hind	Nov. 3,	Dec. 25,	7½	
13.	No. 9847 B.H.	"	Nov. 3,	Dec. 4,	4½	
14.	B.H.	off hind	—	—	8	
15.	No. 8741 B.H.	near hind	Jan. 20, '12	Feb. 24, '12	5	No relapse to date.

Although I do not wish to make a point of it in this paper it is easy to recognise different clinical pictures of canker. There is (1) thrush leading to canker; (2) cheesy canker commonly seen after injuries to the foot; (3) canker with excessive proliferation, and (4) a form of canker seen only in mares in Holland and in those animals with soft callosities the prognosis is bad.

RECORDS OF CASES.

The following records of cases have been kindly furnished by Messrs J. Abson, F.R.C.V.S.; J. B. Chadwick, M.R.C.V.S., and R. H. Laycock, M.R.C.V.S., and I am indebted to them for permission to publish their results.

Mr. J. B. CHADWICK, Manchester. The data concerning Mr. Chadwick's cases is most meagre, no notes having been taken at the time because it was not anticipated that they would be of any value.

It is interesting to note that out of 15 cases in the above list 13 animals were geldings and 13 were affected on the hind limbs, and of these 10 on the near hind, 2 on both hind and 2 on the off hind, so that the near hind limb was involved in 12 cases out of 15, and the near fore only once. Of 15 consecutive cases 12 were completely and permanently cured in periods ranging from 2 to 15½ weeks with an average duration of just over six weeks. One case had relapses, and 2 were treated for about a month and then sold.

Mr. J. ABSON, Sheffield. The notes concerning six consecutive cases occurring in the above gentleman's practice have been furnished by Mr. R. H. Laycock, M.R.C.V.S. They are somewhat fuller than the last series and will perhaps be more interesting if quoted in full.

Case I. Subject.—A seven-year old chestnut Shire gelding.

History.—Had been at work on a farm seven miles from town. The frogs had been noticed to be affected for about twelve months. The diseased horn had periodically been removed and the cankered areas dressed with creosote. The disease was, however, slowly extending. The feet were seen and dressed by Mr. Pillers and treatment was then seriously undertaken.

Lesions.—Both hind feet affected. The near was attacked on the whole frog and bars and one-third of sole; wall at outside heel just diseased. The off foot had only the frog diseased.

Treatment.—As above described commenced on 22/9/11 and terminated 2/12/11 a period of 10 weeks with a total of 27 dressings. These were applied 3 times a week up to 25/10/11 when the whole of the soles and frogs were normal. The feet have been examined weekly but there has been no relapse.

Remarks.—The animal was dressed in stocks, lameness after dressing (due to pressure) was marked for the first three weeks but after this the animal resumed work.

Case II. Subject.—A five years old bay shire gelding.

History.—The animal went lame and the horsekeeper noticed a discharge from the clefts of the frogs which he thought was thrush and treated it with astringent lotion.

Lesions.—On paring down the frogs all four were found to be completely affected.

Treatment.—Was commenced on 5/12/11 and terminated on 24/1/12 a period of 7 weeks with a total of 16 dressings.

Remarks.—This animal was dressed without the aid of stocks and was at work during treatment.

Case III. Subject.—A ten years old bay cart mare.

History.—The animal was sent to the yard on account of lameness when the extent of the disease was discovered.

Lesions.—The frog, bars, and about two-thirds of the sole of the off hind limb were badly affected.

Treatment.—Was commenced on 7/12/11 and lasted until 16/2/12 a period of about 10 weeks. The number of dressings given was 24.

Remarks.—This animal was dressed in stocks and went to work about a month after the commencement of treatment.

Case IV. Subject.—A fourteen years old bay shire gelding.

History.—None.

Lesions.—The near hind foot was affected at the frog, bars, sole, up to the wall to the coronet at the inside quarter.

Treatment.—Was commenced on 11/1/12 merely to satisfy the owner and after 9 dressings the animal was destroyed.

Remarks.—It was so difficult to get the desired pressure that it is quite possible that an unsatisfactory termination would have been experienced even had one determined to continue treatment.

Case V. Subject.—An eight years old shire gelding.

History.—The animal had been fired and blistered and turned out to grass for three months when he was noticed to be lame and was presented for treatment.

Lesions.—Both near feet affected, the fore on the frog and the hind on the frog, bars, and about one-third of the sole.

Treatment.—Was commenced on 23/1/12. The near frog has healed completely and the hind limb is doing very satisfactorily.

Remarks.—The case is still under treatment (29/2/12) which is carried out in stocks. Judging from previous cases a cure can be safely prognosticated.

Case VI. Subject.—A twelve years old black cart horse.

History.—Purchased by owner who knew it was affected.

Lesions.—Near fore and hind frogs completely affected

Treatment.—Was commenced on 1/2/12 and although still (29/2/12) being treated, in stocks he is sure to make a good recovery, as it is making such rapid progress.

Remarks.—The animal has remained at work throughout treatment.

Mr. Abson's cases reported by Mr. Laycock do not allow as yet (3/3/12) of any very definite conclusions. Out of six consecutive cases 5 were geldings. It would seem safe to regard 5 of the cases as cured in an average period of 8 to 10 weeks. (Mr. Laycock has informed me later that cases V. and VI. were cured). To these records there could be added five cases occurring in another practice and three which I successfully treated myself.

CONCLUSIONS.

The first point which strikes one on reading a report on canker cures is that possibly the writer has been dealing with bad cases of thrush or some other more or less simple condition. It can be confidentially stated however that the cases mentioned in this paper were beyond doubt typical examples of the disease.

1. Of 21 consecutive cases where treatment was undertaken 17 were cured, 1 had relapses, and 3 were not cured. The period of treatment was comparatively short (6 to 10 weeks) and after 2 to 3 weeks many of the animals resumed work, only losing the time during which their feet were being dressed, throughout the remainder of treatment.

2. Of 21 recorded cases 18 were geldings and 18 animals were attacked on the hind limbs (some on the front ones as well); 11 cases were confined to the near hind foot alone. Although the number of cases is small these points may be of some service in considering the cause of the disease. If it is admitted that canker is more prevalent than formerly, and that peat moss on uneven floors retains decomposing urine, which may have injurious effects upon horn, then the apparent increase in prevalence of the disease and the comparative susceptibility of the hind limbs, especially the near one of geldings can be explained on grounds of anatomy and stable habits.

3. It is possible and indeed likely that future experience may show that dressings not so concentrated, and other than pure liquid carbolic acid can be used with good results. Comparing a series of cases treated by the above method with one where the hot iron and medicants have been used, the former is found to be the superior in many ways, the chief of which are (1) ease of application, (2) reliability, and (3) the short time that an animal is off work. It would further appear that the continued use of strong cauterising agents such as chloride of antimony and the mineral acids were contra-indicated.

4. Pressure has long been recognised as a very important principle in canker treatment, and it is possible that cases treated successfully by other methods have been really cured by unconsciously obtaining the requisite pressure. The success of strong antiseptics and pressure would seem to indicate that possibly the direct cause may be some form of microbic infection of already abnormal tissue, so secreted on account of the absence of a certain degree of pressure from the keratogenous cells. This may explain the negative results in inoculation experiments. Pressure plays an important rôle in the production of physiological secretions, and some pathological conditions are cured by its application, e.g. milk fever.

5. I think it may be safely said that canker of the frog and sole is curable in 4 to 8 weeks with about half this amount of total rest.

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ABSTRACTS FROM FOREIGN JOURNALS

PERITONEAL ACTINOMYCOSIS IN THE OX.

Emmanelli, of Fano, records (*La Clin. Vet.*) a case of this nature. The subject, a cow, was very emaciated. No fever was present; but the pulse was small and frequent, and the cow showed diffi-

culty in breathing. Post-mortem, a large number of grey soft nodules, from the size of a hazel-nut to that of a potato, of roundish, flattened, or partially cauliflower-like shape, were found upon the serous covering of the rumen, liver, and spleen. They showed numerous purulent centres, in which the microscope revealed actinomyces.

The remaining organs, the pleura, and especially the tongue and jaw, were intact. The author considers that infection must have resulted from some foreign body, perhaps a beard of corn, penetrating the gastric wall and so carrying the fungus to the peritoneum. Rasmussen and Jensen say that this form of actinomycosis is not rare in Denmark. —(*Berliner Tier. Woch.*).

THROMBOSIS OF THE POSTERIOR AORTA IN A BITCH.

Although thromboses of the posterior aorta are fairly common in the horse and ox, there are few records of them in the dog.

Ball now records (*Journal de Méd. Vét. et de Zoot.*) the case of a nine-year-old bitch which, a month before being shown to him, had manifested disturbances of locomotion which appeared to be situated in the hind-quarters. From that moment, progression became more and more difficult. At last the bitch sank upon her hind-quarters, rested in that position for a few moments, and was then able to resume progression, but soon sank again. The symptoms are analogous to those seen in thromboses of the posterior aorta in the horse and ox. Finally, locomotion became almost impossible; and the dog, practically paraplegic, was brought into the infirmary of the Lyons School, where she died five days later.

Post-mortem, the posterior aorta was found to be thrombosed. The thrombus, partially occluding the lumen of the aorta, was from 6 to 7 centimetres (2 2-5ths to 2 4-th inches) long and 1 centimetre (4-10th inch) in diameter, and terminated at its posterior extremity by a rather fine point.

The abdominal aorta and the terminal portion of the thoracic aorta were completely obliterated by another thrombus, red-brown in colour, firm in consistence, and with a fairly regular surface.

Short branches projected from the thrombus into the principal arteries issuing from the aorta.

Ball made a most minute histological examination, but discovered no true atheromatous lesion. The only lesions existing were arterio-sclerotic ones of chronic aortitis. —(*Annales de Méd. Vét.*)

A FLESH DIET IN EXPERIMENTAL NEPHRITIS.

Theohari reports (*Presse Médicale*) some important researches upon this question. His observations have been made upon dogs in which experimental nephritis had been induced, the disease being manifested by albuminuria and cylindrical casts in the urine. These animals, affected with grave renal lesions, succumbed rapidly if they were fed upon meat, but were able to survive for a long time if they were placed upon a vegetable diet. This is the main result of the author's researches.

At the commencement, the nephritic dogs showed a large amount (0.5 to 2 grammes to the litre) of

albumen in the urine. Under the influence of a vegetable diet, this quantity of albumen diminished greatly; hydruria became established: and the sediment now only contained a few cylindrical casts. In becoming chronic, therefore, these cases of nephritis evolved towards the type of atrophic nephritis of man. Anatomically, alterations of the same nature as those of human atrophic nephritis were seen, viz., atrophic glomerulitis, enlargement of the calibre of the tubules with reduction in the thickness of their epithelium and interstitial proliferation of connective tissue. If, however, in these dogs which tolerated their nephritis, a fleshy diet was substituted for a vegetable one, symptoms of uremia rapidly supervened and the animals succumbed in a very few days (from 1 to 3 days in 8 cases out of 9 experiments). This toxicity of flesh food is equally marked in the case of either roasted or boiled flesh.

The evolution of the nephritic process is quite different if the dogs are kept upon a flesh diet at the commencement. In these cases the quantity of albumen becomes enormous (up to 15 grammes to the litre); the sediment, by its abundance and its composition, shows degeneration and intense desquamation of the renal tubes; uremic symptoms appear rapidly, and the animals succumb in a few days. Histologically, glomerular hyperæmia with tumefaction of the endothelium is found. The majority of the convoluted tubes are affected with necrosis of their epithelium; in other points, the epithelial elements are less massively affected, and present every variety of cellular alteration.

All this shows the highly toxic character of a flesh diet in the course of nephritis in a normally carnivorous animal, such as the dog. From this point of view there is no sensible difference between raw and cooked meat. It is possible that a flesh diet in nephritis also produces alterations in other organs; but the renal lesions which were demonstrated were alone sufficient to cause the death of the animals.—(*Annales de Méd. Vét.*)

W. R. C.

Royal College of Veterinary Surgeons.

A Special Meeting of Council was held at 10 Red Lion Square, W.C., on Tuesday, April 23rd, and the following members were present: Messrs. Banham, Barrett, Col. Sir F. Duck, Sir John M'Fadyean, Mulvey, Prof. Shave, Slocock, and Villar.

Mr. W. Freeman Barrett being a Vice-President, was elected to the chair.

The minutes of the previous special meeting were read and confirmed.

Mr. VILLAR then proposed that the alterations made in Bye-laws 56 to 87, passed at the previous special meeting, be now confirmed.

Sir JOHN M'FADYEAN seconded the motion, and, on being put to the meeting, it was carried unanimously.

This concluded the business.

LANCASHIRE

VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the Grand Hotel, Manchester, on March 21st, the President, J. W. Brittlebank, Esq., Manchester, in the chair. The attendance included Messrs. McKinna, Faulkner, Woods, Wolstenholme, Taylor, Norbury, Munro, jun., Carter, Turner, Hopkin, Holroyd, A. Lawson, Stent, Garnett, Sumner, Pillers, Ellis, Mattinson, Wilson, Whitehead, Locke, Michaelis, and Spreull.

Apologies for absence were received from Messrs. Packman, Edwards, and Clarkson.

The minutes of the last meeting were taken as read on the proposal of Mr. Lawson, seconded by Mr. Taylor.

Mr. T. O. RICHARDSON, F.R.C.V.S., Tarporley, and Mr. J. P. HEYES, F.R.C.V.S., Wigan, were duly elected members of the Association.

Mr. HAYHURST, M.R.C.V.S., D.V.S.M., Blackburn, and Mr. RICHMOND, junr., M.R.C.V.S., Oldham, were nominated for membership by the President and Mr. Stent respectively.

REPRESENTATIVES TO THE COUNCIL N.V.A.

This matter had previously been discussed and referred to the Council of the Association for consideration and report. The Secretary submitted their recommendation, to the effect that Messrs. Brittlebank, Stent, J. H. Carter, Packman, and Locke (*ex-officio*) be elected as representatives from the Lancashire V.M.A.

Mr. TAYLOR moved that this recommendation be adopted. Mr. Garnett seconded, and it was carried.

Members in Arrear. The Council recommended that the names of three members whose subscriptions are in arrear be struck off the roll. Mr. Locke proposed that this be done, Mr. Carter seconded, and it was carried.

International Congress, 1914. The Council advise that an annual subscription of five guineas for the years 1912, 1913, and 1914 be sent. Mr. Lawson moved that this be done.

Mr. GARNETT, as Treasurer to the Congress, thanked the Association for making this recommendation. The profession had probably the greatest undertaking it ever had since it had been organised. The International Congress of 1914 will require energy from every Society in the land as well as every member of the profession. Sir John M'Fadyean has been successful in obtaining substantial financial support from nine other members of the profession to the extent of £100 each, and he (Mr. Garnett) was pleased to say that Lancashire and their Association was not unrepresented in the ten. This should be an example as to what the rank and file should be prepared to do. Sacrifices would be required from all if the undertaking is to be carried through as all Britishers will expect it to be. Those who had attended the Congresses held abroad could testify to the princely way in which they were entertained. He realised that this year was a great one for the Lancashire V.M.A. in its Jubilee year, but felt that the members would not forget also the International Congress. He had pleasure in seconding the proposal. This was carried.

MECHANICAL LAMENESS.

Mr. TAYLOR opened a discussion on this subject. He referred to a report in *The Veterinary Record* of Dec. 23rd, 1911, of the proceeding of a meeting of the Southern Counties Veterinary Society which included a paper by Col. L. J. Blenkinsop on "The possibility of preventing the present conflict of veterinary evidence in police court cases." In the discussion which followed, Mr. Burt, Brighton, is reported to have said, "if an animal with short tendons was to go lame it must be suffering

pain." Mr. Taylor said the question is whether such conditions as were understood by the term lameness could exist in a horse without the animal suffering pain. Apparently Mr. Burt thought that all lame horses should not be worked. He (Mr. Taylor) had looked up one or two cases in which the R.S.P.C.A. were prosecutors and where the defence was that of mechanical lameness with absolute freedom from pain. He was afraid that when giving evidence in police courts and other courts veterinary surgeons were apt to be rather too dogmatic. Instances arise where one says such a condition of things exist and another says they do not, with the result that the magistrates are in a quandary, and sometimes have to act as arbitrators between the two. Conclusions should not be too hastily drawn. He could name cases where he could not say the animals were fit for work, but when turned out in the morning were absolutely sound. In one such case where lameness had developed suddenly the opposing veterinary surgeon had stated the cause of lameness to be ringbone, but it turned out to be a pricked foot, from shoeing. The shoe had never been removed. In all cases where a veterinary surgeon gives evidence in court he should use every means at his disposal to ascertain the exact cause of the lameness. It is possible to think too much about symptoms and too little of the causes of disease.

However, the question before them was, Can there be such a condition as mechanical lameness with freedom from pain? He had seen cases of absolute shortening without thickening of the flexor tendons in which there was freedom from pain, where the animal, unshod, goes upon its toe and is unable to put the heel on the ground. If suitably shod it should be able to perform certain work without pain.

Again, in cases of complete ankylosis of a joint resulting from inflammatory diseases, are there not some of these cases which are fit for certain kinds of work? He recommended all to read the paper of Col. Blenkinsop. It was good to discuss such matters and exchange opinions, so that there need not be great variance when appearing in Court. He could not help feeling that undue prominence was given by the press to conflicting evidence by veterinary surgeons, for there was quite as much of it given by the legal and medical professions.

Mr. WOLSTENHOLME said that to his mind the whole question resolved itself into a juggling of terms. If a man makes a statement that there can be no lameness without pain, and the word lameness is synonymous with pain, then of course there cannot be lameness without pain. If the word lameness be construed into an altered method of movement, into an altered action—shortened, exaggerated, unequal or unusual, then there can be no doubt that, if that is the definition of lameness, there can be lameness without pain.

It is perhaps well in looking at this subject to observe an animal that is found lame with pain and occasionally lame without pain. The higher animal, man, often gives these conditions, viz., an altered gait in some way or other with or without pain. Who has not noticed affections in children from want or stunted development in the brain resulting in inability to move one or other leg, or if moved then brought along in a curious, exaggerated, jerky fashion? They had noticed cases of lesions in the brain of the human subject caused by hæmorrhage or injury, the result being a peculiar movement of an arm or leg. A man may get a fractured limb resulting in a shortening of the limb. Is it suggested that the movement of that shortened limb is accompanied by pain? How many men have broken the flexor tendons of their fingers with results as marked or more marked than found in the lower animal? Is a Potts' fracture, for instance, accompanied by pain? To his mind the idea is ridiculous, and contrary to well-known fact.

There are many ways of judging whether a horse is in pain or not. You see a horse which has contractions such as described, the flexor tendons and fore limbs rigid, without any signs of heat or pain on pressure, and that horse must go with interference of action, yet there are indications that the animal does not suffer pain.

Mr. LAWSON said he had seen many cases of lameness in which he thought the horses did not suffer pain. Such cases could only be judged by symptoms. In acute cases where, possibly, the cause could not be seen externally, further examination should be made before action is taken. His experience was that conclusions were drawn too quickly, and to some extent their profession was to blame for this. He thought it would be well if some proposal could be made by the Association so that the public might be informed as to their conclusions.

Mr. GARNETT thought that the best way of dealing with the cases which came before the magistrates would be to have a Veterinary Assessor, in the same manner as the Medical Assessor is appointed for cases of injury. The Society might take the initiative by bringing the matter before the Home Secretary in the form of a resolution as follows: "That in the opinion of this Society and in the interests of justice it would be advisable to have a Veterinary Assessor attached to all Courts of Justice who might be called in to give an unbiased opinion in disputed cases of lameness."

Mr. MCKINNA makes it a rule that before deciding on the question of lameness the horse shall stand at least an hour for observation as to whether there is the pain ascribed to it. Ringbone had been mentioned, and personally he would like to see that term expunged from the list. He agreed with the suggestion of appointing a Veterinary Assessor.

Mr. CARTER endorsed the remarks of previous speakers. He thought they could have ringbone without interference of articulation.

Mr. SUMNER said the first thing to consider was what was lameness. He had no particular definition, but thought it meant interference with harmony of either flexion or extension of a limb. He thought they must admit that there could be lameness without pain; but as to mechanical interference and lameness, probably with a view to getting an acquittal, the term of mechanical lameness was used. They could have manifest ankylosis of the lower phalanges without any serious defect of action. On this question of mechanical lameness it would be desirable in the interests of the profession to consult the Royal Society on the subject, acting in sympathy with them and not in antagonism. Where there is fixity of the lower phalanx without evidence of actual pain on progression, he had no hesitation in saying that it is mechanical lameness unattended by pain.

Mr. HOPKIN pointed out that magistrates were at liberty to adjourn doubtful cases and get expert opinion on them.

Mr. FILLERS advised caution and careful consideration in framing resolutions, as there were so many factors to be taken account of.

Mr. WOLSTENHOLME said the point was—is there such a thing as interference in the symmetry of progression without pain. He thought it was indisputable that such a thing could exist. It exists in the animal that can speak, and he believed also in the animal that could not speak.

Mr. MATTINSON, referring to the remarks of Mr. Sumner, wished to point out with respect to his definition of lameness that they could have an animal dead-lame without either flexion, extension or progression.

Mr. WHITEHEAD referred to the practice of the R.S.P.C.A. in Salford, more particularly in regard to their selection of veterinary surgeons for Court cases.

Mr. STENT was of opinion that each case must be

taken on its merits in examining as to its suitability for work and freedom from pain. He thought that frequently veterinary surgeons in carrying out such examinations hardly subjected their patients to tests sufficiently drastic. It was perfectly obvious that as a business proposition the only way of testing a horse was to apply to him as far as possible a test similar to that which he would undergo in his ordinary work. That is to say, in the case of a horse which had to perform heavy draught work he should be put in harness and tested for that particular work, and not merely trotted or walked free from gears.

The PRESIDENT thanked Mr. Taylor for the admirable manner in which he had opened the discussion, and he desired to say that it was the outcome of a policy that he hoped their Council might be able to adopt, namely to look upon the quarterly meetings as meetings of serious purpose. He was hopeful that the Council would select in the future a subject for discussion at each meeting, and they might even go so far as to call upon an individual member of the Society to take the responsibility of either reading a paper or opening a discussion on the subject selected. He certainly hoped—and did not think he would be disappointed, that this scheme would meet with the approval of all, and that if called upon they would readily respond. At the last meeting this had been done, and he thought the result was an unqualified success. With regard to that day's discussion everybody would agree that it had been extremely instructive, and matters of much public interest had been brought forward by most of the speakers in an able and practical manner.

The question of mechanical lameness was one affecting the politics of the profession very considerably, and he was certain that the dignity of the profession would be furthered considerably if the occasional unfortunate clashing of professional evidence were less evident. He had been in police courts and heard on questions of absolute fact, and where he had seen the animal under consideration, one man denying what was evident to any layman. He could understand differences of opinion on matters of technical import. The moral standing of the profession is at stake, and some different line of action should be arrived at. If an assessor or assessors could be appointed to every Court where these cases are heard the interests of justice would be furthered, and also the interests of the profession. If resolutions were to be framed it would be better to frame them on that question.

Mr. WHITEHEAD proposed that the matter be referred to the Council to draft resolutions and submit them to the next meeting. Mr. McKinna seconded.

The PRESIDENT asked for some expression of opinion as to what kind of resolutions they wished to have framed. In the first place they might consider the recommendation as to the appointment of Veterinary Assessors. Secondly, with regard to mechanical lameness.

It was agreed to refer these two points to the Council.

Mr. LAWSON referred to his connection with the N.S.P.C.A., and more especially to the Local Committee of Management on which he acts. He said he had drawn attention to the fact that in the majority of examinations a certain veterinary surgeon was always called in, and he had suggested that the nearest surgeon to the accident should be summoned. To some extent this had been adopted.

Mr. WOLSTENHOLME pointed out that there were objections to this, as in his own case he did not desire to be summoned to such cases, and no doubt there were others like minded. It would be far better to have a salaried official or officials appointed as municipal officers who would act quite independently and would not be affected by the number of cases arising.

A vote of thanks to the President, proposed by Mr. McKinna, seconded by Mr. Faulkner, was adopted.

CENTRAL VETERINARY SOCIETY.

A general meeting was held at 10 Red Lion Square, on Thursday, April 4th, Mr. R. J. Foreman, President, in the chair. The following Fellows signed the attendance book:—Messrs. J. W. McIntosh, D. Stewart, H. G. Simpson, Prof. J. Macqueen, J. Willett, Profs G. H. Wooldridge, W. Hunting, Prof. H. A. Woodruff, C. Herbert Sheather, W. S. Mulvey, H. D. Jones, Ralph Bennett, N. Almond, A. L. Butters, F. O. Parsons, G. Gordon, R. Brydon, W. Willis, F. W. Willett, W. Perryman, Charles Sheather, J. A. Gosling, C. A. W. Cunningham, Henry Gray, W. Roger Clarke, and Hugh A. MacCormack, Hon. Sec.

Visitors: Messrs. W. Taylor, S. C. Rowbotham, A. W. Noel Pillers, and W. H. Brown.

On the motion of Mr. Butters, seconded by Mr. Almond, the minutes of the last general meeting were taken as read and confirmed.

MORBID SPECIMEN.

Prof. WOOLDRIDGE exhibited an enlarged prostate weighing 1½ lb. which he had removed from a fourteen-year-old fox-terrier about 20 lb. in weight. The prostate which was cedematous, was the largest he had seen.

ELECTION OF FELLOWS.

The following gentlemen were unanimously elected Fellows of the Society:—Messrs. A. E. Sangster, M.R.C.V.S., 141 Finchley Road, N.; H. KEELING ROBERTS, M.R.C.V.S., Lanherne, Bexley Heath; H. ANDREWS, M.R.C.V.S., Montague Street, Stones End, Borough, S.E.

THE PRESIDENT'S REPORT *ex POLICE*.

Gentlemen,—A deputation consisting of Messrs. Hunting, Willett, McIntosh, and myself, Mr. Stewart being unavoidably absent, waited upon Sir Ed. Henry by appointment on March 13th, 1912. He having been called out of town, deputed Major Woodhouse to interview us. I made some opening remarks as follows:—

March 13, 1912.

Sir Edward Richard Henry.

Sir,—As President of the Central Veterinary Society I beg to thank you for receiving this deputation of London Veterinary Practitioners. Our object is to point out some conditions which we think are unfair to owners charged with working an animal in an unfit state.

Before entering upon details I should like to assure you that our profession is second to none in its admiration of the police, and that we recognise the absolute necessity of enforcing the law for prevention of cruelty to animals. Our whole lives are devoted to allaying pain, and checking disease in domestic animals.

But, sir, we see both sides of the question, and think it our duty to bring to your notice some methods of procedure which cause increased suffering to horses, and not a little hardship to horse owners.

It may be thought that our interests as general practitioners bias our opinions in favour of the defence, as the horse-owners are our clients. As a matter of fact no respectable veterinary surgeon desires to enter a court to defend cruelty; I may go further, and say that very few of us care to join in the defence, even when we are convinced that no cruelty exists. Such a position seems to place us at once "on suspicion" and we enter a witness box with a feeling that our evidence is not received with the same impartiality as is meted out to the veterinary expert appearing for the police.

Our calling, like all other others, has some bad men in it, and it is certain that in some cases a defence has been attempted when none honestly existed. The Council of the Royal College of Veterinary Surgeons, however, possesses disciplinary powers over men who

disgrace their profession ; and would only be too willing to act if a specific case could be brought forward with the assistance of the police.

Assuring you, sir, of our earnest desire to give every help in the suppression of cruelty, I now ask you to hear Mr. Hunting state some of the methods which we consider open to objection.

Mr. Hunting took up the subject and with due deliberation stated our case in a very lucid manner.

Messrs. Willett and McIntosh also contributed valuable notes.

The Major was very sympathetic, asking many questions on different matters, pointing out that some of them were in the magistrates' jurisdiction.

He promised that the complaints regarding the "greenyard," "exposure of animals," and difficulty of owner's veterinary surgeon obtaining an inspection of, or in urgent cases treatment of, an animal in a "greenyard," would be looked into and altered ; the other points to have due consideration.

We formed the opinion that this was no idle or formal promise, but would be actually carried out, as the Major seemed to thoroughly understand the matter, being a horseman himself, and, I believe has this part under his supervision. He impressed upon us the desirability of placing before them specific cases, saying that it was no use bringing up old ones as they could not be dealt with.

I would suggest that we try to get owners to lodge complaints where there is a genuine grievance, and that we should also complain, if we have grounds for it, on any important matter touching ourselves. The Major gave us to understand that there is not, or ought not to be, any special veterinary surgeon attached to a Court, but that the police ought to call the nearest available veterinary surgeon on their list, as in case of street accidents. This point, however, was not made too clear.

On the whole we were satisfied with the interview, and hope there will be some favourable results to justify our action.

Mr. HENRY GRAY read the following proposition :—
THE ROYAL VETERINARY COLLEGE AND ITS WORK.

As I consider the matter I am about to bring before your notice to-night is of prime importance to practitioners in London and the Suburbs, and in fact to the profession at large, I offer no apology in asking you to bear with me for a short time while I put before you a few facts relating to it.

No doubt you have recently read in the daily and professional papers that a deputation of Governors of the Royal Veterinary College waited upon the Minister of Agriculture, with the object of obtaining from the Government a sum of several thousand pounds to enable the College to build and equip certain necessary laboratories, and also to supplement the salaries of its teaching staff.

I certainly think, as no doubt all of you do, that the Royal Veterinary College should receive liberal financial aid from the State, so that it could be so equipped as to bring the teaching and the means of investigation up to the level of modern requirements ; or at least up to the level of the best veterinary institutions on the Continent. Agriculture is the greatest asset this country has, yet I believe there is no civilised country in Europe where veterinary education and research is so starved as it is in England.

So far I am in agreement with the action of the Governors, but when I come to consider the manner in which the Governors conduct the College practice, and the bye-laws and regulations formulated by them in the interests of subscribers by whom they are appointed, I feel there is room for drastic reform.

The sole object of the Royal Veterinary College when

founded was for veterinary education. But as time went on and the original subscribers dropped out, a new type of subscribers replaced them whose motive generally for becoming a subscriber was a commercial one, i.e., they subscribed purely for the purpose of obtaining veterinary advice and medicine at a special low rate, considerably lower than that of local veterinary practitioners, indeed in some instances at one-half, or even one-third their fees. I am informed that in certain cases medicines have been supplied under cost price. Again, anyone would know that it was impossible to keep a large dog, such as the Great Dane, for 5s. a week (without any allowance being made for treatment).

It may be said that this cutting down practice is for the purpose of obtaining material for the education of the students ; but those of us with experience in London know that very low fees are not always an advertisement, and that those who are in a position to become subscribers are not likely to be influenced so vitally on a question of paying a reasonable fee.

As an alternative, and I think a better one, I suggest the method of taking in animals only belonging to the poor and getting subscriptions from the sentimental public.

The proof of the neglect of this branch by the Royal Veterinary College is the establishment of "Our Dumb Friends' League" Hospital and "The Animals' Institute" Kinnerton Street. These institutions are supported by voluntary contributions, but the subscribers derive no personal benefit whatever. These institutions take in poor people's animals for treatment. This point tells with the public. I am informed on very good authority that the Brown Institution had last year nearly, if not quite, as many patients as the Royal Veterinary College. Veterinary students, under the will of the late Mr. Brown, have the right of attending the Institution and obtaining experience. So much for the material for the teaching of students.

The London Hospitals for people are run by voluntary contributions and the subscribers have the privilege of giving letters of admission to the needy ; and any people they may receive as paying patients are charged strictly according to their means.

This brings me to the main point which I wish to bring before you : that is, the grave competition between the College and London practitioners ; and it is not solely the fact that a certain number of patients are lost annually to practitioners ; but the example set both to the public and to the young veterinary surgeon, starting out into the world.

The public naturally thinking that the skill of the College Professors is of a higher standard than that of an ordinary practitioner. It is only fair to point out that all former students of the Royal Veterinary College have all the privileges of subscribers excepting a vote in the election of Governors ; and that Bye-law 11, states that "The Professors are not to examine horses as to soundness out of the College, nor visit sick animals (otherwise than in the course of investigating any such outbreak as aforesaid), except by special permission of the Principal or Professor in charge, and then only for the purpose of consultation with a veterinary surgeon, or with the object of removal of such horses or other animals to the Infirmary for treatment if this be found convenient and safe."

The Governors should consider the facts that the College has been supported mainly by our fees, i.e., those of us who were students there ; that when the Dublin and the Liverpool Veterinary Schools were founded the local practitioners were considered and the Colleges undertook not to enter into competition with them. I believe the R.C.V.S. took a very great interest in these institutions at the time of their foundation !

The London and suburban practitioners are more numerous than those in the Army, Board of Agriculture,

in Ireland, Scotland or the Liverpool district, and yet not one practitioner is represented directly or indirectly on the Board of Governors, although the latter include representatives of the Army and Board of Agriculture veterinary services.

Since the days of Coleman the Royal Veterinary College has always been suspicious of veterinary practitioners, one of the College bye-laws being that the number of veterinary surgeons on the Board of Governors should not exceed five.

Now the question arises: should not a Society like this exert its influence in the interests of its members in order to get *direct* representation on the Board of Governors? The Governors have "full power and authority to alter, vary, break, and renew" the bye-laws "at their discretion," (section 10 of the Charter of Incorporation).

Are we going to meekly allow the College to obtain this grant from the Government and then to continue this competition, unfair now, because we when students supported the College to exist?

I sincerely hope this Society will consider this matter and, if necessary, decide to form a committee to approach the Royal College of Veterinary Surgeons as the custodian of the interests of the profession, or the Governors of the Royal Veterinary College, or deal otherwise with the matter as they may think fit, even to the extent of sending a deputation to the President of the Board of Agriculture.

The Royal Veterinary College is no longer a necessary institution to the country, as there are several other self supporting ones that do not enter into competition with the practitioners.

Mr. HUNTING moved as an amendment that the communication be printed with the Minutes and put on the agenda of the next meeting for discussion.

Mr. STEWART seconded the amendment, which was carried.

The amendment was then put as a substantive motion, which was also carried.

AN IMPROVED METHOD IN THE TREATMENT OF CANKER OF THE HORSE'S FOOT.—By A. W. NOËL PILLERS, F.R.C.V.S. [See p. 676].

THE PRESIDENT, in opening the discussion, said that in the case of a private practitioner canker was a difficult disease to treat, as he rarely had the use of stocks, and, as Mr Pillers had said, it was impossible for a farrier to hold the horse. He (the President) but very occasionally attempted to treat such cases: he generally tried to get them passed on. When he was on the staff of the Great Eastern Railway Infirmary the practice then was to use crude carbolic acid and sulphates of zinc and copper with a padding of tow. Rolls of tow, as exhibited by Mr. Pillers were not used, but the pressure was obtained in a very similar manner by means of hoop iron. He found the great difficulty was in getting all the cauliflower growth away, and in fact he had had but very little success in cases of canker. He should be very much inclined to try Mr. Pillers' new method, especially if one could tell an owner that the treatment was only going to take a month. In that case he thought owners would be very willing to allow their animals to be treated.

Mr. SHEATHER, SENR., said he had been at some trouble to discover the actual novelty in the method of treatment other than the rolls of tow which gave the particular pressure. He himself had pursued the method of treatment indicated by the essayist with considerable success. He thought the secret of the whole thing was the unlimited amount of time given to the case, the regularity of dressing, with the application of pressure, and the absolute control of the animal. He had treated some cases of canker very successfully and other cases very unsuccessfully. In those cases where he had been unsuccessful, the want of success was simply owing to

the fact that some amount of time was involved in treating the animals, a fact which did not appeal to the owners, who became impatient and refused to let the treatment be regularly applied. Consequently the matter was continually being put off, the result being a state of chaos, one not being able to give that amount of regularity of treatment which was necessary. With regard to dressings, all sorts of dressings were used. Sometimes one dressing was not so good for a particular case as another. As he had said, although he had very much appreciated the essay, he failed to see where any novelty came in other than the rolls to get a particular pressure. He did not say that was a bad method; he thought it was a good one, but at the same time he should hesitate to say that it was the only way to get pressure on the foot.

Mr. ALMOND said the paper introduced one novelty, and so far as he knew only one—that was the pressure by means of rolls of tow. The other features of treatment he had himself employed at different times. He had used carbolic acid as well as other caustics with greater or less advantage; and he noted that in the only case mentioned by the essayist in which the disease had extended to the laminae to any great extent the animal was destroyed. Any other case of canker he thought might be treated fairly successfully by the ordinary modes of treatment; that was to say, varying forms of caustic and pressure. He had successfully treated a good many cases where the frog and perhaps a little of the sole or bars had been affected, without putting the horse out of work at all; in fact by the ordinary methods of treatment unless a horse was capable of continuing his work it was not usually worth treating—certainly not in country districts. To obtain pressure he had usually employed an iron plate of the same shape as the sole, with the transverse bars supporting it underneath the seated out "webb" of the shoe, and when treating an animal by the ordinary method of removing as much of the diseased horn as possible, he had always used as far as he could a hot iron for searing it before removal. His cases had generally taken a considerable time to cure, but except where the disease had extended to the laminae he had generally been successful after an indefinite length of time. Having got a comparatively dry surface by means of a hot iron, he generally painted the diseased portion of the foot with chloride of antimony, which caused an exudate from the soft horn, and the surface could be again dried by the application of the hot iron. That, with the introduction of powerful astringents such as dried sulphate of zinc or sulphate of copper, packed tightly with a covering of tow and tar, had generally been the methods he had adopted. Further, after the plate had been fixed in the way he had indicated to obtain pressure, he filled up any cavity that existed by means of further plugging from the back of the heel underneath the iron plate, which, extending as it did some distance posteriorly to the frog, enabled him to fill it up with some blunt instrument like a piece of wood or iron. A small quantity of oil of tar was poured into the heel between frog and plug daily. He had seen many cases recover in which the frog only was affected. He was referring to those cases which were sometimes described as neglected thrush, but which, if neglected, experience told would go on to exhibit the ordinary symptoms of canker. He had had such cases recover by simply removing and redressing about once a fortnight.

Whether there was any special virtue in the rolls of tow time and experience would show, but one might suppose that there would be a certain advantage in the use of them, inasmuch as they would admit of the passing out of any moist exudate from the diseased surface, which would to some extent be prevented in a case where a plain iron plate was used under the surface of the foot; and also there would be a certain amount of

motion between the rolls of tow which might have a beneficial influence.

With regard to the greater frequency of canker he confessed it was not his experience of recent years that canker was on the increase. Whether that was due to the fact of there being fewer horses he did not know.

Mr. BUTTERS thanked Mr. Pillers for bringing this method of treatment before the Society, because although perhaps to some practitioners there was nothing very novel in it, yet it tended to arouse interest in the subject. He had seen a good many cases of canker, and years ago he used to treat them in the old-fashioned way with the hot irons, chromic acid, solution of perchloride of mercury and other strong caustics. He occasionally put an iron plate on in order to get pressure on the sole and also to enable the animal to work. This treatment, however, was not very successful. His colleague who used to assist him was an enthusiast upon the subject of canker, and some years ago had shown him a method of treatment which was somewhat similar to the one recommended that night by Mr. Pillers. The foot was thoroughly pared, all the loose and diseased portions removed by the knife and the parts well cleaned. The exposed parts were then dressed with a strong liniment of iodine, and boracic acid was dusted over the top. The foot was then packed tight with tow, strips of irons being used to keep it in place. The time occupied in curing each case varying according to the part affected. When the disease extended up the wall, especially at the heel, his colleague had a long shoe put on, pressure being applied by means of a bandage. That treatment seemed to answer very well. The length of time a horse was laid up was always a very important item in the treatment of canker. It was seldom less than two or three months when the disease extended to any degree over the sole and frog, and with the exception of those cases where the wall was much involved, all recovered. There was no doubt that the antiseptic treatment and the use of mild dressings was the most successful way to treat canker. Another very important item in the treatment was the frequency of the dressing. His colleague dressed the horses' feet every day at the beginning of the treatment and for perhaps three or four weeks. Tow was used very plentifully about the frog, but there was no special rolling. One point had struck him with regard to canker, namely, how very seldom it was seen in the better bred horses. He only recollected seeing one horse of that description suffering from canker, and that was a half-bred. The disease was nearly always confined to the heavier breeds of horses. A loose box was a very useful item in the treatment of a cankered foot, as was also the bedding used. One had to keep the bedding dry, and he thought sawdust or peat changed pretty frequently was about the best material for the purpose.

Mr. R. BENNETT said he himself had tried treatment on somewhat the same lines as those which were indicated in the paper on three or four cases. He was inclined to attribute the success of Mr. Pillers' method to the use of iodoform combined with the good method of pressure. He (Mr. Bennett) did not think strong caustics were advisable. The method of treatment he adopted was to thin the horn down as much as possible, wash with formaldehyde 40 per cent. solution, and then dress with equal parts of iodoform and tannic acid. The result in two cases, in the fore feet, was complete success in about a month. He had another bad case in the hind foot, nearly recovering but breaking out afresh, and in which, also, the fore feet were subsequently affected. That animal was sold. The cases were very few to form any opinion upon at present, but they rather bore out what Mr. Pillers had found, and they also showed that these cases in which the fore feet were affected were more hopeful of treatment than those in which the hind feet were affected. He should like to know a little more about how Mr. Pillers rolled the tow to get the pressure

he did. It seemed to him that getting a pressure all over the sole was very difficult, and in the specimen of the foot which had been passed round the table he noticed that the pressure was not very good just at the base of the frog. He would also like to inquire if any member of the Society had ever used pure metallic mercury in the treatment of canker. He knew a blacksmith who had a very great reputation for treating canker, and certainly to his own knowledge the man had had a great many successes. He had been told that the man's method was to thin the horn down and treat with pure mercury.

Prof. WOODRUFF desired to thank Mr. Pillers for the careful clinical observations and records of the cases he had treated. There was a good deal too much loose thinking, loose speaking, and loose writing at veterinary meetings with regard to results which had been obtained. Mr. Pillers had made careful observations, and he had given the members the benefit of those exact observations on all his cases. Practitioners wanted information on all cases and wanted to know all about them, and that is what they had had that night. Consequently he thought Mr. Pillers' results justified him in saying there was perhaps some novelty in his particular treatment. He questioned whether many members in the room, if they were honest and brought all their cases of canker to the criticism of a meeting, could produce 21 or 22 consecutive cases with anything like the good results which the essayist had put before them. Whether it was the rolls of tow, or the carbolic, or the iodoform, he (Prof. Woodruff) did not know; he rather thought it was a combination of those three things, combined with absolute perseverance in dressing. The novelty of the treatment was in the result, and that surely was the best novelty one could get for any treatment. He desired to point out that Mr. Pillers did not dress too frequently. He (Prof. Woodruff) was quite satisfied there was such a thing as over zeal in treatment. Taking a skin disease in a dog for example, if one treated with something fairly caustic and corrosive very often, a chronic disease which would take a good deal of getting rid of would be obtained, but if one applied something mild, like lime water and glycerine, the malady would be cured in half the time. The same might be true of canker; one could overdo the caustic and also the frequency of the dressing. With regard to the particular stocks which had been used in Mr. Abson's cases, Mr. Abson had showed him the stocks two or three years ago, and he was bound to say that they struck him at that time as being the best stocks he had ever seen, and an important item was that they were comparatively cheap. Mr. Abson had assured him that after considerable experience he had had no accidents, and that the stocks were quite safe. He would like to know from Mr. Pillers if he advised the removal of the shoe at every dressing. He took it from the make of the shoe that he did not, but he would like some information on that point. Mr. Bennett had raised an interesting point about pure mercury. He (Prof. Woodruff) should have thought that the blacksmith—another name for mercury being quicksilver—would have had a difficulty in getting it on the spot, but apart from that the man might easily have rubbed it down with chalk and obtained the ordinary grey powder of the Pharmacopœia. He thought probably that that was what the man did. This rather seemed to lend support to Jowett's theory, that canker was due to a spirochete, for syphilis in man, due to a spirochete, was acted upon most efficiently by mercury. That seemed to him an interesting point with regard to the use of mercury in canker.

Mr. W. HUNTING said he did not rise to discuss the paper but merely to thank Mr. Pillers for bringing it forward. He had done so in such a lucid manner that he (Mr. Hunting) could not but think that probably the same lucidity and exactness was applied by the people

who had been treating the cases so successfully. His own experience of canker had been that, after different periods of treatment extending up to ten months, all the cases had ended in the same way—miserable failures. He noticed that in Mr. Pillers' cases it was an assistant in each instance who had treated the animals. If one treated the cases oneself every three days, one was never free from the odour, and it was just the sort of job an assistant ought to take on. He did not think anybody else but an assistant would take it on if he could get out of it. One thing about the treatment was very clear, namely, whether the packing or the dressing had much to do with the cure, the very greatest exactitude had been followed. In the paring of the sole, in taking care that there was nothing left under-run, in the treating of the whole surface, and in the packing, everything seemed to point to great exactness; and exactness in detail was the secret of nearly all good surgery. He did not know, however, even with the rather enticing method of treatment which Mr. Pillers had brought forward that evening, with its equally enticing results, he would ever tackle a case of canker again.

PROF. MACQUEEN said Mr. Pillers had asked the members to discuss his treatment and to criticize it, otherwise he would not have felt inclined to have intervened in the discussion. To begin with he found fault with the paper because it did not give sufficient information as to the nature of the cases treated. That was a very important point in connection with the treatment of canker. The impression which had been conveyed to him by the paper was that Mr. Pillers had had only one genuine case of canker. Those cases which had been quoted with a cheesy discharge on the sole and frog were commonly called cases of canker, but they were not the kind of cases which required exceptional treatment. And, strange to say, the case of canker which had extended beneath the wall was the only case of the number which had been unsuccessful and which had to be slaughtered. He doubted if Mr. Pillers' cases of canker were typical, because they were restricted to the sole and frog, with one exception, and the cankered tissue, or whatever Mr. Pillers liked to call it, was removed by scraping. He (Prof. Macqueen) said that if one was dealing with genuine canker one could not properly scrape off the cankered tissue because it was too fleshy and vascular. But apart altogether from the features of the disease Mr. Pillers had been treating, he failed to find any novelty in the method. The title of the paper was to the effect that it was an improved method. He agreed with Mr. Hunting and with all those who had spoken in the same tone that the improved method was the improvement in the personal energy of the individual, and he gave Mr. Pillers and Mr. Chadwick all the credit they deserved in that respect. The man who succeeded in treating canker successfully was the man who devoted himself to his case. Mr. Pillers mentioned the shoe, the straps, the bandage and so on, and a great deal had been made of rolls of tow. What else had there been in years gone by but tow with which to dress cankered feet? How were cankered feet treated years ago? They were treated by rolls of tow, tow rolled up as tightly as possible and placed against the surface, pieces of hoop iron being put across a partially seated shoe. In veterinary surgery it was extremely difficult for anyone to alight upon a new method of treatment least of all in canker. No disease of the horse's foot had been more frequently experimented with, and he maintained that there was nothing novel in the method of treatment, with the exception that Mr. Pillers rolled his tow in a most artistic manner and was entitled to all the credit for the way in which he managed those rolls. With regard to carbolic acid, ever since its introduction that acid had been one of the acknowledged remedies for canker, but like a great many other remedies it was not a specific, and he supposed Mr. Pillers would find that it was not a specific;

in fact he had been inclined to do so, because in the concluding remarks of his paper he had placed more faith in the powder which was applied to the foot than in carbolic acid. Mr. Pillers deserved the Society's thanks for the trouble he had taken in the preparation of his paper, in the collation of cases, and for the very excellent way in which he had submitted the whole of the facts. He (Prof. Macqueen) regretted he could not say that he found any novelty in the treatment. His experience of canker was that irrespective of the agent employed, if one desired to succeed in curing canker one had to give the case one's personal attention.

MR. GRAY thought one point had been overlooked, namely, that Mr. Pillers had resuscitated an old treatment. As time went on, when newer generations of veterinary surgeons came along they overlooked or were ignorant of the old treatment and went in for something new. He thought that was a very strong point in favour of Mr. Pillers' paper, that it resuscitated the old treatment which was much superior to many of the more modern methods. He quite agreed with the remarks of Mr. Sheather and Prof. Macqueen. When he (Mr. Gray) was at the Royal Veterinary twenty-eight years ago it was the emphatic teaching of Sir George Brown that the principal factor in the treatment of canker was pressure. He had known canker to be cured with quick lime, and also with formalin, but in those cases pressure was also adopted. The last case of canker he had ever treated was with formalin. He put pure formalin on the sole and packed it up with tow and then forgot all about it for four or five days. When he next saw the case the whole of the sole was dried up, so much so that the horse had to be killed.

Prof. WOOLDRIDGE desired to add his meed of thanks to Mr. Pillers for the very lucid manner in which he had brought the subject before the Society. He knew one gentleman in the Midlands who had told him just recently that he was actually pleased when he saw a case of canker coming into his yard because he could guarantee a cure in nineteen cases out of twenty. The line of treatment which he practised was Malcolm's, and personal application. He (Professor Wooldridge) had been particularly interested in hearing that gentleman say so, because in previous years the father of that practitioner had always consigned cases of canker to the knacker. There had been therefore a complete change of front, due simply and solely to the personal application of Malcolm's line of treatment.

In the milder cases of canker which he (Prof. Wooldridge) had lately come across—he was glad to say there had not been very many—the line of treatment he had adopted, after removing under-run horn and applying the actual cautery, had been a first dressing of subchloride of mercury with as much pressure as he could possibly get with tow and hoop iron applied somewhat in the same way as Mr. Pillers' method, except that he was not able to get his numerous rolls of tow so tightly packed. Following the sub-chloride of mercury, salicylic acid and oxide of zinc, 1 in 4, applied every second day, preceded by the very cautious use of the actual cautery where discharge appeared, had been his routine treatment, and he had met with more success than he had dared hoped for at the commencement of the treatment.

MR. SHEATHER said in confirmation of Mr. Gray's remarks about reviving an old treatment, he saw Mr. George South of Bond Street, over forty years ago, use Malcolm's treatment in canker.

MR. J. WILLETT said that no doubt some older practitioners knew something of the treatment under discussion, but younger practitioners had often tried without success to treat cases of canker. He agreed that there was nothing new in the dressing, but the whole secret of the treatment which Mr. Pillers had brought forward was the graduated rolls of tow from the size of

a straw to the size shown on the outside. When the rolls were pressed in they dovetailed in so that a uniform pressure over the whole surface of the foot is gained, and which gives with the foot when its weight is pressed on it. He thought that was the whole secret of the success of the treatment.

Mr. PILLERS, in reply, said that the President's method of treatment with carbolic acid, sulphate of zinc and padding was one which had been greatly adopted by the practitioners in his, Mr. Pillers', district before the method dealt with in the essay had been discovered. The President had remarked that the padding was not put in rolls, but was used simply as a pad. He intended to refer to that point later on in his reply, and would therefore pass on.

Mr. Sheather's remarks were chiefly directed to an attempt to show that the method of treatment mentioned in the essay was not a new one. He (Mr. Pillers) found that directly he mentioned the treatment to veterinary surgeons they always said it was as old as the hills, but he would very much like them to show him some literature wherein it had been definitely stated that the rolls of tow were rolled up as hard as a pen-holder and that they had been used in the way which Mr. Chadwick had advised. The ordinary conception that a veterinary surgeon had of using tow in rolls was just to put them up loosely and push them in. In Mr. Chadwick's case the tow was rolled as hard as a penholder, and that, he (Mr. Pillers) maintained, was the novelty. He did not maintain that treatment by carbolic acid was a new thing: nor was the pressure new, but just the way of getting it. Mr. Sheather also seemed to think that enough mention had not been made of the great necessity for time, restraint and regularity, but he would point out that he had said in the paper: "More important than these articles are plenty of uninterrupted time and a strong liking for thoroughness," and that the seventh thing which was required was "absolute foot restraint, preferably by means of stocks."

Mr. Almond differed a little from Mr. Sheather by saying that there was one novelty in the treatment and one only, namely, the rolls of tow. The various methods which Mr. Almond had used with success had been used by others with success at times, and without success at other times. The iron plate was a common method of treatment, as was also the hot iron, but if they were compared—assuming of course that a mistake had not been made in the diagnosis—side by side with the treatment he had mentioned in his paper, one would be absolutely convinced that the latter was far and away the best method. Mr. Almond had mentioned that he had been successful "after an indefinite length of time." If one used the method which he (the Author) had outlined one could be a little more definite than that, and say that the cases would recover in from six to eight weeks. Mr. Almond also mentioned the drugs he had used, starting with the ordinary caustics and ending with chloride of antimony, sulphate of zinc, sulphate of copper, tar, chloride of zinc and so on—quite a number of agents of the Pharmacopœa. He would point out that in the treatment under discussion only three agents were necessary. With regard to Mr. Almond's theory that the rolls allowed the exudate to escape, it would be found that after they had been applied they did stop the exudate from escaping, but they stopped it from escaping from the cells. It did not escape from the cells and then pass through the rolls of tow. The pressure which could be put on by means of the rolls stopped the exudate from coming out of the diseased tissue, and that is where he thought the question of pressure was, and always had been such an important one.

With regard to Mr. Butters' remarks, he would ask him for the names of the places where he had seen the treatment used. Mr. Butters had said that there was nothing novel in it, and Mr. MacCormack had also

privately said to him that there was nothing novel about the treatment, and he had asked that gentleman to give him a reference. Mr. MacCormack had given him one, but unfortunately he was not able to find references to rolls of tow in Prof. Axe's work. It turned out that the practitioner mentioned by Mr. Butters treated the cases with iodine and boracic acid, and the treatment had lasted in some cases for two or three months. By applying the treatment he (Mr. Pillers) had brought forward that evening the case got better in a very much quicker time and that was where the treatment became economical. With regard to Mr. Butters' remarks about canker being confined to the heavy breeds of horses, he was unable to offer any explanation on that, but the point was a little bit wide of the subject.

Mr. Bennett had said that he had seen a somewhat similar treatment as the one mentioned in the paper and that he thought pressure and iodoform played very important parts. It was a very peculiar thing that if one looked up the records of canker one would see every now and then iodoform being put forward as a very important drug, and possibly there might be something in it. He noted Mr. Bennett's remarks about metallic mercury.

With regard to stocks, Mr. Abson's stocks were excellent. He had seen many horses in them and he had nothing but praise for them. Prof. Woodruff had asked if the shoe was removed. He thought in all Mr. Abson's cases it was removed, and he (Mr. Pillers) always removed it because of the difficulty of manipulating knives. He thanked Mr. Hunting for his kind remarks, and with regard to the smell which hung about one, he trusted that Mr. Hunting had not noticed that he had been dressing a case of canker that very morning.

He thanked Prof. Macqueen for his valuable criticism. It reminded him very much of what Prof. Macqueen used to say at College: "If when you go into the examination and they ask you certain questions, answer as the examiners desire, and when you come out have a different opinion if you think they are really wrong." When he (Mr. Pillers) was at College he always took what Prof. Macqueen said as being gospel truth, but now he felt inclined to ask the Professor why he did not expound at College the treatment which had been mentioned in the paper, if it was so old. With regard to Mr. Chadwick's cases not being cases of genuine canker, it was of course quite possible to produce six or seven veterinary surgeons who had seen the cases and who would say that they were canker, and then to produce one who had not seen them to say they were not, but as he (Mr. Pillers) had pointed out in the last part of his paper, he had provided for that contingency, and had moreover not mentioned any symptoms. These were cases that, had they not been mentioned in this paper, he thought Prof. Macqueen would have agreed that they were cases of canker. Possibly Prof. Macqueen thought they were not cases of canker because they were not up the wall. He (Mr. Pillers) took it that canker must start somewhere, and surely it could exist before it had gone to the wall. Prof. Macqueen had said the only case that looked like a true case of canker was the one which had gone up the wall and which had been killed. He had not described that one's symptoms any more fully than the other cases.

Prof. MACQUEEN, interposing, said it depended on the lesions, and that was what he objected to—the lesion was not described.

Mr. PILLERS, continuing, said. With regard to Prof. Macqueen's remarks about the rolls of tow not being new, he had seen cankered cases dressed under Prof. Macqueen's instructions, but never in one had the hard rolls similar to those on the foot which he had passed round that evening been used by the Professor. Then Prof. Macqueen mentioned something which he called postulates. He would like to remind him that the postulates were mentioned in the paper under quite

a different heading, and that the term "postulate" was extracted from Mr. Caulton Reeks' book. The things which Prof. Macqueen had called postulates were what he had mentioned under "Apparatus required." That Mr. Chadwick had derived the treatment from traditions handed down, he (Mr. Pillers) was unable to say, but he could aver that canker had been common in Sheffield and Manchester, and that very little could be done for it except by a prolonged treatment extending over six or seven months, with hot irons, and that then Mr. Chadwick gradually came upon his mode of treatment with very successful results, so that he (Mr. Pillers) thought although possibly it might have been handed down from tradition, it was certainly new to Mr. Chadwick. He was fairly satisfied that nobody had shown conclusively that the hard rolls of tow had ever been used before. He thanked Prof. Macqueen for his remarks about the rolls being artistic, but he must differ from him there, because he thought that they were very straight and plain. Further he must say that he did not fasten his faith at all on the powder. What he did think important was pressure.

He thanked Mr. Gray for his remarks. Perhaps Mr. Gray would send him the reference where he could see that the tow had been rolled up as hard as pieces of pencil.

Mr. GRAY said he had never said that.

Mr. PILLERS, in conclusion, thanked the members for the very hearty discussion which they had given to his paper.

On the motion of Mr. Mulvey, seconded by Mr. McIntosh, a hearty vote of thanks was accorded to Mr. Pillers for his essay, and the meeting terminated.

HUGH A. MACCORMACK, Hon. Sec.

A Judge on Doctors.

At Clerkenwell County Court on Wednesday, 17th inst., at the close of the evidence in a case under the Workmen's Compensation Act, Judge Cluer said the matter would have to go to one of the medical referees appointed by the Home Secretary.

"I have heard the evidence of the doctors," said his Honour. "One has told me that the workman's condition is owing to the old injury of last year. The doctor on the other side has said the opposite, so I must refer it to somebody else."

Continuing, his Honour remarked, "We have to put much confidence in doctors; but the fact that they come into a court to give evidence on either side is not creditable to the members of the profession. They cannot be giving their evidence honestly. They will come and say anything because they think we are fools."—*Daily Telegraph*.

The importation of dead larks to market by the hundredweight is an indictment for which there is no answer, either in their plenty or our needs. The Member for Peterborough put the question on no sentimental grounds, and we think the Board of Agriculture might take it up on the score of material value, for the bird is worth his weight in gold as an insect killer. All the Board replied was that the matter rests with chief constables and county councils, and this, to our mind, is not enough. We cannot wait for the official or semi-official mind to be percolated with facts which the Department of Agriculture has at its finger ends. What we want is to use knowledge at headquarters for the preservation of a bird which is, first of all, a boon to farmers, and then the other things shall be added unto us—the grace of a creature which other nations envy us, and the everlasting rapture of this small seraph of the fields.—*Pall Mall Gazette*.

Scoring Pigs.

Alfred Gosmore, pig dealer, Tarvin Bridge, near Chester, was summoned at Mold for cruelty to pigs. An inspector of the R.S.P.C.A. said he saw the defendant at a Mold auction with five pigs which were cut and bleeding. There was a wound right across the loin of each pig, varying in size from three to five inches in length. Gosmore admitted he had cut the pigs with the sharp end of a pair of scissors, and added that he was aware it was an offence to "score" pigs in that way. Defendant, in a letter to the court, said the practice of "scoring" pigs was extensively carried on, especially in Ireland. The Inspector said the Board of Agriculture had made known several other methods of marking, and there was no necessity for the cruel practice. The defendant was fined 2s. for each pig and the costs.—*Farm and Home*.

Trespassing Animals.

In a case at Shoreditch County Court in which a Dalston tailoress claimed 10s. against a neighbour, the value of a vase broken by a cat, Judge Cluer found for the defendant. He observed that the law was odd with reference to animals. Owners of wild animals were liable, and the owner of a horse or ox that trespassed and damaged a neighbour's field was also liable. But the owner of a cat or dog could not be mulcted in damages for trespass, though the owner of a dog which bit a sheep could.

LONDON CART HORSE PARADE.—Arrangements are completed for holding the 27th Annual Parade of London Cart Horses in Regents Park on Whit-Monday, May 27th. All drivers competing in the Parade will receive a prize. Entry forms and full particulars can be obtained from the Secretary at the Society's offices, 12, Hanover Square, London, W.

Dr. ROBERT KERR, in his recent book, *Morocco after twenty-five years*, states that the Jews rarely suffer from phthisis; tuberculous animals are common, and are sold to the Moslems when the Jewish slaughterer has pronounced them unfit food for the chosen race.

OBITUARY.

VET.-MAJ. D. M. GLADSTONE, late A.V.C.

Graduated, Edin: April, 1874.

Major Gladstone died on April 11th, at Goolds Hill, Mallon, Co. Cork, from heart failure. His age was 62 years.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, April 22.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. (on probation) B. R. Body is confirmed in his rank.

Capt. F. W. F. Thomas arrived from India in transport "Rohilla" on 17th inst. and has been posted to Woolwich for duty.

Lieut. (on probation) R. F. Stirling has been transferred from Aldershot to Bulford for duty at that station.

Capt. B. L. Lake arrived from South Africa in S.S. "Balmoral-Castle" on 20th inst., having been granted six months leave of absence to the United Kingdom.

Prof. J. A. GILRUTH who has been recently sent north to Port Darwin to reign over Australia's tropics as, what one critic of the man has called "the Scotch Czar," has already reached the Northern Territory with his wife and family.

"The territory has been damned by everybody, and never been given a show," he said just before he left Sydney to take up his post. "It is five times the size of New Zealand, and yet the whole population numbers only 1264. There is not one bullock to the square mile, and but one European to every 450 square miles. The emptiness of the country is astounding and inexplicable."

VIVISECTION AND THE VETERINARY PROFESSION.

Sir,

The letter of Pate, J.P., opens up a subject that might well occupy more of the attention of amateur and professional preventers of cruelty. The tolerably frequent use of irritating substances to irritable and sensitive spots is well-known to most veterinary surgeons who have practised even for a short time. The two chief factors in the perpetrating of mal-treatment are ignorance and parsimony. Perhaps more human beings consider themselves capable of treating animal ailments than human diseases, but even in the latter case the faith-healer and the dabbler often try their hand on a serious job. To alter the state of things ignorance must give way to enlightenment, but how can you expect scientific knowledge in a numskull whose environment is utterly commonplace and his every-day work based on a bad rule of thumb procedure. Besides, many men keep and work a horse who cannot keep themselves. Until horseownership is fixed on an income basis there will always be a tendency to look on an animal as an inanimate machine that only wants oiling or lubricating occasionally with some cheap muck,

To overcome the parsimonious trait it is necessary to spread the knowledge that remedies are sold by the veterinary surgeon often at a less price than by the proprietary medicine vendor, and that a call at the surgery may enable helpful advice to be given in addition. Advertising that all veterinary surgeons supply medicine would be a counterblast to the unblushing advertisements of the patent medicine vendor, and the wheedling ways of the itinerant quack-remedy traveller, and the shop displays of bottles and packets at shows. At present for the professional man to fight against these is like beating the wind.

If knowledge of the veterinary surgeon's field were more widely spread we should not hear so much about irritating applications being made to inflamed structures, evil-smell-potent drugs being given to canine patients, whitening and vinegar being used to cover open sores (on the principle that hiding an evil cures it, especially if it is cloaked in white), pepper and onions to make mares urinate, and elementary applications for mange that kill the skin as well as the parasite.

Amateur treatment without a guiding head is often followed by a police court prosecution, and vinegar and whitening at a cost of twopence may eventually work out at 15/- an ounce.

The remedy is the spreading of knowledge that veterinary surgeons are reasonable men who wish to help those who consult them—that they are not all "on the make" to the uttermost farthing, and that a timely call on them may often hinder much future trouble and expense.

The difficulties in the matter are apparent, and to none more so than to the veterinary surgeon himself, the remedies are not hard to indicate, but their adoption can only result largely by altering temporary fundamental conditions and by spreading the light: and epistles to the public press like those of Pate, J.P., do good and help to clear the way.

—Yours faithfully,

G. MAYALL, M.R.C.V.S.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended April 20	15		16				1	3	62	96	2	76	945
Corresponding week in	1911	21	21				8	14			2	62	328
	1910	32	35				7	8			4	13	211
	1909	31	41				15	73			8	42	535
Total for 16 weeks, 1912	375		425				55	129	1707	3896	148	1015	12924
Corresponding period in	1911	320	370		1	18	67	210			289	677	7187
	1910	497	612				114	294			297	359	2837
	1909	454	640				199	807			399	470	4464

Board of Agriculture and Fisheries, April 23, 1912.

* Counties affected, animals attacked: London 3

IRELAND. Week ended April 20	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks	Animals	Animals	Animals	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
...	4	13	9	93									
Corresponding Week in	1911	...	...	...	...	...	...	...	...	...	3	3	9
	1910	...	...	...	...	...	...	...	...	...	7	1	76
	1909	...	...	...	...	...	...	...	...	...	5	...	14
Total for 16 weeks, 1912	...	1	1	...	...	...	...	...	31	234	83	668	
Corresponding period in	1911	3	3	...	...	1	2	36	216	44	732		
	1910	4	6	...	...	...	...	29	277	21	572		
	1909	2	2	...	...	...	...	35	251	10	94		

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 22, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

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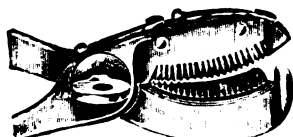


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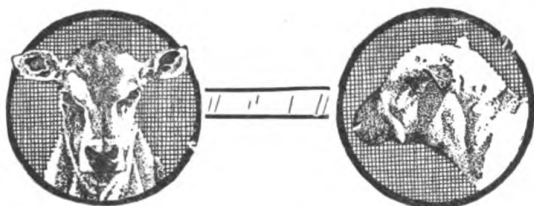
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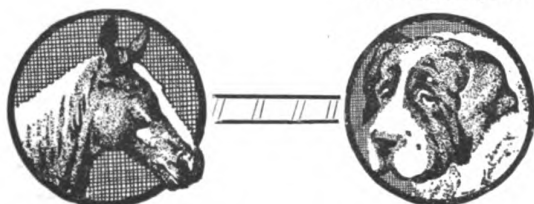


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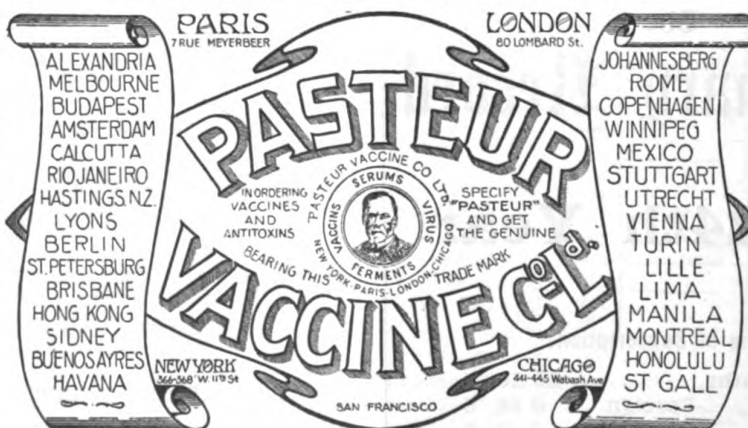
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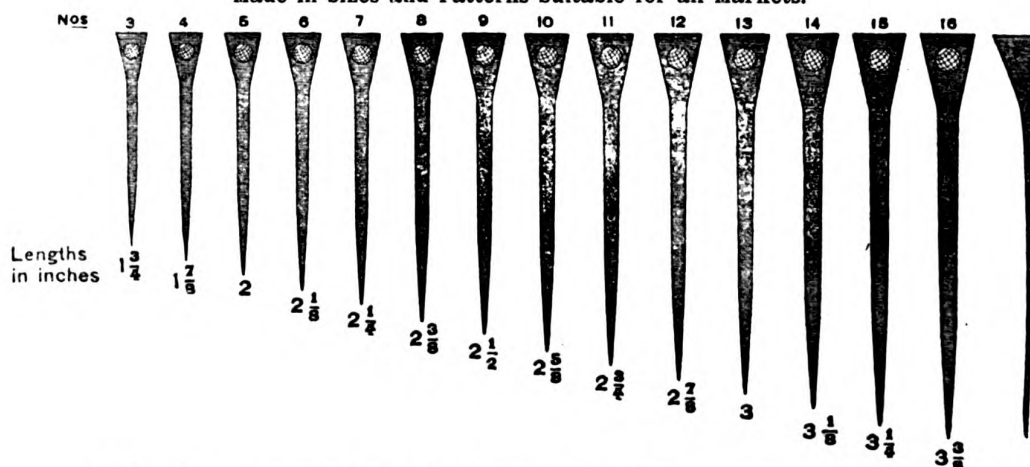
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Southern Counties Veterinary Society

THE Annual Meeting (postponed), will be held at Brighton on Tuesday, 14th May inst.

J. ALEX. TODD, Hon. Sec.

Worthing.

South Eastern V.M.A.

THE first General Meeting will be held at the County Hotel, Canterbury, on Wednesday, 8th May. Mr. James Crowhurst, F.R.C.V.S., President, will take the chair at 2-30 p.m. and give a presidential address. Business, adoption of rules and regulations commended by committee: A report of committee and suggested amendments to scale of fees allowed to veterinary inspectors, and other matters. All V.S. under the K.C.C. are particularly requested to be present, and V.S. from adjoining counties are cordially invited to attend.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1243.

MAY 4, 1912.

VOL. XXIV.

THE SOUTH EASTERN V.M.A.

The Veterinary Society recently formed in Kent under the name of the South Eastern V.M.A. holds the first general meeting since its inception at 2.30 p.m. on Wednesday next, at the County Hotel, Canterbury. Business of real importance is on the agenda. It will be remembered that at the meeting at which the Society was first formed, reported in our issue of January 13th last, the question of veterinary inspectors' fees was raised, and it was resolved "That the whole of the veterinary inspectors be invited to attend the next general meeting to confer in formulating a revised scale of fees more commensurate to the services rendered." That has been done, and more; for the visiting inspectors are to be provided with a starting point for discussion. We gather from the advertisement of the meeting that the Committee of the Society will bring forward suggestions for a revised scale of fees, and all veterinary inspectors under the Kent County Council are invited to be present and discuss these.

From last January's report, it is easy to see that there are good grounds for hoping for an improvement in the conditions of Kentish veterinary inspection—if only the inspectors can be induced to act collectively. Representations by one or two would not be very likely to be effectual; a joint representation by all would be a very different thing. Every veterinary inspector in Kent, therefore, should attend the meeting if possible. If that is quite impossible, he should at least enter into communication with the Society's Secretary, Mr. Toope, of Dover, with a view to supporting concerted action. If that is done, it is more than possible that the Society may commence its career by securing a substantial improvement in the remuneration of the most responsible veterinary work in the county.

THE INTERNATIONAL CONGRESS FUND.

Recently it has been announced that Sir John McFadyean has succeeded in inducing nine other members to join him in subscribing £100 each to this Fund. Our few affluent members, therefore, are doing their duty by the Congress, and so are the Veterinary societies. What are we to expect from the average members—from the rank and file? We have little more than two years in which to raise the money—but with such a start it should be raised. If ten men can give £100 each, surely a hundred more can give £10, and a thousand more the modest sum of £1—and that, with the Societies' subscriptions, would almost if not quite suffice.

THE TREATMENT OF CANKER IN THE HORSE'S FOOT.

It has been stated by a whimsical critic that literature would come to a dead halt were the musty records of the British Museum and the wisdom of the secondhand bookstalls tabooed. After reading Mr. Noel Pillers' interesting paper on "An improved method in the treatment of canker of the horse's foot," I was impressed with the acumen of the above remark. Not that I wish to infer that Mr. Pillers' has recently paid a visit to the library of the British Museum, or gained inspiration from the shelves of secondhand bookstalls. Indeed otherwise, for the bibliography attached to his paper contains no reference to any of the earlier veterinary authors. As the following quotation from the fifth edition (1841) of Delabere Blaine's "Outlines of the Veterinary Art" is very much to the point, I make no apology for giving it at some length.

"TREATMENT OF CANKER. The principal indications appear to be, first to reduce the inordinate increase of parts to a level with the surrounding surface; and next to restore the healthy secretions Proceed carefully and accurately to examine what extent of sensible sole is separated from the horny; or, as farriers would say, how much is "under-run." Exactly to this extent must the sole of the hoof be removed with a drawing knife Not only must this be done in the first instance, but at every future dressing the same attention should be paid to examine if any further separation has occurred, that it may be removed also. Having thus fulfilled the first indication, by reducing the diseased fungus, and having lessened the irritation that occasioned it, by removing the detached horn, the next process is to promote a more healthy action in the diseased surface: two plans tend to this end—the first by *stimulants* applied to the surface of the vessels particularly; the second, by *pressure*, which strengthens them generally. After the exposure of the whole cankered surface, therefore, and of its treatment, as before directed, let it be sprinkled with either of the following powders:

No. 1.—Red oxyde of mercury	½oz.
Acetate of copper	"
Calamine	"

Mix.

No. 2.—Sulphate of copper	1oz.
Alum	"
Carbonate of lead	"

Mix.

The cankered surface being lightly covered with either of these, or any other escharotic stimulant judged proper, let it be dressed as dry as possible, first by a layer of lint, over which place pledgets of tow thickly over the bottom of the foot, which should be done very judiciously, so to fulfil the remainder of the indication, that is, to keep up a firm and equal pressure; and, to ensure a uniform continuance of it, place over the tow a piece of canvas to keep all smooth, and then introduce over the whole thin strips of iron or steel slid under the shoe, and crossing each other, which will retain the dressing and keep up a continual pressure, on which so much depends. This being done, wrap up the whole in thick sacking, or hose, so as to keep the foot perfectly dry, which is of the utmost importance, as nothing so tends to increase of the fungus as moisture; nor does anything so strongly prevent its future increase, and restore the healthy action, as dry applications united with firm and regular pressure over the sprouting surface. A very great fault is often committed by dressing cankered feet too seldom. I would, however, except the first dressing where it has been severe; here it is usual to let it remain on two or three days, until sloughing may be supposed to have commenced, and matter to be formed; but afterwards, no bad case ought to be dressed less frequently than every day. From a wish to avoid trouble this is often neglected, and a cure that might be quickly performed is needlessly protracted Nor must it be lost sight of that it is imperative at each dressing that the luxuriant and diseased slough or fungus must be first removed, not only to produce a level surface, but also to procure a complete view of the parts underneath."

Except for the fact that Mr. Pillers advocates the use of carbolic acid and iodoform (which were unknown when Blaine wrote) his treatment differs in no respect from that advocated by the author quoted. Blaine had a fair command of the English language, and when he used the term "pledget of tow" it may be taken that he meant a tight roll of tow. Whether these rolls were arranged in the geometrical manner advocated by Mr. Pillers it is impossible to say; but at least it is reasonable to assume that a veterinarian who had the ingenuity to devise a scheme of regular and constant pressure for the treatment of canker would manipulate his pledgets of tow and other appliances to the best advantage.

Without doubt veterinary science has made some advance since Blaine wrote. Theories of toxins, anti-toxins, opsonins, and the chemico-physiological side-chain hypothesis, formed no part of his education. But the forward movement can hardly have extended in the direction of making pledgets of tow. In this branch of the veterinary art Blaine's predecessors "ferriers and horse leeches," would also appear to have had nothing to learn. In these circumstances I suggest Mr. Pillers should alter the title of his paper to "The revival of an old method in the treatment of canker of the horse's foot."

PARACELSUS.

CASTOR OIL BEAN POISONING.

One morning, during the autumn of last year, a telephone message was received to the effect that an alarming outbreak of disease had occurred amongst swine on a farm within the city boundaries. On visiting the premises it was found that the illness had commenced within the previous 12 hours. There was a total of 52 swine on the premises. Of these three sows and three store pigs were ill whilst one boar, one sow and three small store pigs were found dead.

Symptoms.—Off food, lying down, disinclined to move, crouching under the bedding, somewhat tucked up in the abdomen, signs of abdominal pain, ears drawn backward, and the body surface almost cold.

Post mortem.—A young pig, about 4 months old, which had just died, and was still warm, was opened. There was hæmorrhagic gastro-enteritis with large blood clots—in some parts completely filling the lumen—in the small intestines. The mesenteric lymphatic glands were highly congested. The remaining glands and organs appeared normal.

An examination of the food was made, and a bag of meal being suspected it was decided to set this apart under lock and key.

The owner, after dosing the live swine, including those not affected, with raw linseed oil, used up the remaining food stuffs in the usual way. After 2 or 3 days the swine made an uninterrupted recovery. The illness commenced at the first or second feeding with the suspected meal.

The owner, after marking one of the small unaffected swine for identification, made several attempts to feed it with the suspected meal, but the animal absolutely refused to oblige.

Samples of the meal were then forwarded by the owner to a public analyst. The following extract explains the latter's finding:—

"Dear Sir,—We have examined the sample of pig's meal received from you on the . . . and find that it contains a considerable quantity of crushed castor oil beans. From the circumstances you have described to us we are of opinion that the illness and death of the pigs have been caused by eating this meal"

Negotiations followed between the owner of the swine and the tradesman who supplied the meal, and, I am led to believe, terminated in a manner satisfactory to both.

THOMAS PARKER, F.R.C.V.S., Veterinary Officer.
Newcastle-upon-Tyne.

ABSTRACTS FROM FOREIGN JOURNALS.

DIAPHRAGMATIC HERNIA IN THE DOG.

Steinberg, of Gelsenkirchen, records the case of a mongrel male terrier, about two years old, which was run over by an automobile on January 2nd, 1910. Steinberg examined him soon afterwards, and found him quite conscious. The pulse was small, irregular, and beating about 150 times per minute. The respiration was very dyspneic, the

auxiliary respiratory muscles being in energetic action. The expression was anxious, and the animal avoided all movement, on account of the difficulty in respiration. Raising the dog from the ground so as to elevate the fore part of the body lessened the dyspnea; raising him so as to elevate the hinder part, on the other hand, increased it.

The diagnosis was diaphragmatic hernia with prolapse of the intestines. The treatment adopted, in the first place, was to lift the dog by the fore limbs and shake him to and fro, the object being to induce reposition of the prolapsed organs. A firmly applied bandage was then placed corset-wise round the thorax; and finally the dog's bed was arranged so as to elevate the fore part of the body. The next day the breathing was markedly less laboured, and the appetite had returned.

On the 20th February, the dog was again shown to Steinberg. The report was that he had seemed to recover from the accident, and for a time had been completely healthy, the breathing and appetite being normal. Three weeks before, however, he had been seized and held by the tail, and, while energetically struggling to free himself, had suddenly cried out. Since that time he had again shown temporary dyspnea, which bodily exertion could augment till the animal became unable to stand. The appetite had also been very irregular.

Steinberg found the dog ill-nourished. He came barking to meet Steinberg, and even this movement induced violent dyspnea to the extent that the dog stopped and stood swaying to and fro. Steinberg diagnosed a defect of the diaphragm and advised destruction, which was immediately carried out.

Post-mortem examination showed that the right and major portion of the liver and a great deal of small intestine had passed into the thorax through a rupture in the diaphragm, the edges of the rupture being smooth, bright white, and scarcely thickened. The liver was united to the under part of the pericardium and the diaphragmatic surface of the right lung by yellowish-white and easily detachable adhesions. Some serous fluid with caseous flakes was present in the thoracic cavity. A furrow was visible upon both sides of the liver; and the prolapsed portion was rather darker in colour than the remainder.

The first hernia had healed without leaving behind any organic derangement. The fresh scar, however, had not withstood the violent strain put upon it at the time when the dog was seized and held as stated above; and a new rupture had arisen, through which organs had become prolapsed into the thorax.

The author adds that, in the course of meat inspection, he has seen diaphragmatic hernia in swine in the most different stages and degrees, from an opening in the diaphragm the size of a ten pfennig piece with a fungus shaped distortion of the liver, to the condition in which the liver was completely and firmly adherent to the costal pleura and the diaphragm by connective tissue, and the displaced portion of liver presented the appearances of chronic interstitial inflammation.—(*Berliner Tier. Woch.*)

EPILEPSY IN THE HORSE.

Zschokke records (*Schweizer Archiv.*) the following peculiar case in a horse. The animal had been affected with a lobar pneumonia, which ran a typical course through all its phases. Zschokke examined him, and found that all the morbid symptoms had disappeared.

Wishing to examine the mucous membranes, Zschokke attempted to raise the internal wing of the nostril, but the animal resisted against this. Suddenly the horse's head began to tremble, and the flexor muscles of the neck were violently contracted.

When the inferior extremity of the head had almost reached the carpal region, the trembling of the muscles became extended over the whole body; the limbs were flexed, and the horse fell upon the left side. The neck was bent until the head arrived between the forearms; and the limbs were slowly stretched out, as is often seen in the death agony. The ears were erect, and the eyes were retracted into the orbits, causing the membrana nictitans to become apparent, as in tetanus. The nostrils were widely dilated and immobile, and respiration was arrested. The abdominal muscles were violently contracted. The pulse was imperceptible. The horse remained in this position for a minute and a half. Sensibility was greatly impaired, the animal responding neither to the owner's voice nor to pricks from a pin.

Soon a deep inspiration took place; the contracted muscles relaxed, and the head was raised. The eyes were staring and the pupils dilated. The respiration became regular; and, two minutes later, the horse got up without the least help. Progression was uncertain at first, but soon became normal.

The horse had had three similar attacks at the time of the pneumonia, and since then had shown nothing abnormal. Zschokke asks the question—to what cause can these seizures be attributed.—(*Annales de Méd. Vét.*) W. R. C.

NOTES ON TWISTS OF THE INTESTINES.*

By Mr. J. WILLETT, M.R.C.V.S., Marylebone, London, W.

Mr. President and Gentlemen,—To my mind the investigation of the causes of Torsion of the Intestines, both predisposing and actual, ought to open up a large field of inquiry to our pathologists, which has too long been neglected, for, when we consider the great mortality amongst horses, due to these diseases in our larger towns—a proportion at least of 40 per cent. greater than any other disease—and how little we can do in the majority of cases in effecting a recovery, the reflection is not pleasant.

TWIST OF THE SMALL INTESTINE.

Causes.—The causes of Twists of the Small Intestines I am inclined to think are mainly dietary. This is no doubt a very debatable point, but it is interesting to note that you will get a series of cases from a particular stud of horses; and it is my experience that the large

* Read at the meeting of the Royal Counties V.M.A. at Alperton, April 16th.

stud furnishes a bigger percentage than does the small owner. When inquiry is made as to the mode of feeding the routine is as follows: In the large stud the night man usually feeds the animals early, in many cases giving no water previously. On the arrival of the day men a second feed is given, before the horses start their day's work; then, when brought out of the stable, they make for the trough and fill themselves with water. Result—after working some hours, indigestion, followed in some cases by Colic. Or given a wet slippery day, accompanied with a heavy load—result, either "Rupture of the Stomach" or "Rupture of the Mesentery."

The latter state I am convinced may occur several days before a loop of the bowel becomes imprisoned. Again, I have made many "post mortems" where I have failed to find any rupture of the mesentery where Twist has been present, even after a prolonged search.

It is a peculiarity to be noted, that rarely has pain been shown early in the morning, but generally towards the afternoon or evening, and the duration from the first symptoms to death is on an average about 12 hours.

A second cause no doubt is prolonged exertion without food and the increased spasmodic contraction of the bowels during that state.

The question arises: How long has the displacement of the bowel occurred before pain is evinced? I think it may be some hours, for you very often hear the statement made, that the animal had nearly or had quite finished his mid-day meal, and on resuming work was taken with pain. Another point to consider: Is the Colic more often antecedent to the "displacement," or is the "Twist" the cause of the Colic.

Many practitioners are of the opinion that "Twist" may be caused by the animal rolling in the paroxysm of pain, and they will not, under any circumstances, allow the animal to roll; but for my part I have no objection, providing there is a good loose box, as I hold that very few, if any cases occur in this way, and I have known several cases when in my opinion the animal has been suffering with this complaint to spontaneously recover after rolling.

Twist of the Small Intestine is, I believe, 60 per cent. more frequent in London than twist of the large bowel; yet very little information is given of its various symptoms by the authors of our various text-books.

Symptoms.—In the early stages the symptoms may apply to several of the other bowel troubles, and in many cases are misleading, for they vary according to the temperament of the animal. In one case you may have only a moderate amount of pain shown throughout, and only by the persistence of the symptoms—unrelieved by the sedatives administered, the patchy perspiration, and later, the haggard expression, the deeper injection of the conjunctival membranes, the running down pulse, and the sobbing breathing shows the gravity of the case. Yet the next patient may be violent from the first, with profuse perspiration, followed by delirium, with a quieter interval before the end. These cases run a rapid course and there is not much difficulty in suspecting the cause.

The next constant symptoms present, which aid the diagnosis are the hard and bounding pulse, the increased violence of the symptoms, the peculiar crouching action—as though the animal was going to lie down, yet the prolonged reluctance shown before he eventually does go down.

There is one symptom which I have rightly or wrongly considered diagnostic in Torsion of the small bowel, and that is, the tinkling, bell-like sound heard on auscultation. You may have to listen some time before this is apparent, but in every case in which I have heard this sound I have found on post mortem the small bowel involved. The examination per rectum is often, in the early stages, misleading, you generally find

it empty, neither unduly constricted or dilated, but later you get the tenesmus on introducing the hand, and the dilated coils of the small bowel may be felt close to the rectum. The tympany also varies in different cases.

TWIST OF THE LARGE INTESTINE.

Torsion of the Large Bowel is mostly confined to the heavy Dray Horse, and is in my opinion more often due to direct accident than to dietetic errors, viz. by slipping or stumbling when drawing a load up an incline. My own experience has been, whilst assistant in a City Cart Horse practice—that the animal had been drawing heavy loads from the London Docks, where there is a steady incline of about two miles to pull up to the City, or the steep draw up from Tooley Street, or over one of the many bridges—and mostly on a wet day. Therefore the causes are not so easily avoidable. Professor Walley states in his book that the displacement usually occurs many hours before any symptoms may appear, and my own experience confirms this.

Some observers are of opinion that the "twist" is more often at the pelvic flexure than at any other part of the bowel, but I must confess that I have not taken that notice, although I think it possible that the great length of bowel filled with food, and its great freedom of movement may explain this.

Symptoms. In the early stages the symptoms are not characteristic, for on first examination you may conclude that you have only a simple case of "impaction" to deal with, but when the colic, at first slight, continues with increased pain, and the pulse becomes smaller and more frequent, a rectal examination generally reveals the true nature of the disease.

Mr. Caulton Reeks, in an able paper published in the December number of *The Journal of Comparative Pathology*, enumerates the symptoms of "torsion of the pelvic flexure of the colon," and in case any of the members present have not read it, I cannot do better than quote him. He calls attention to the comparative weakness of the pulse from the first, the constancy of the pain, the peculiar crouching movement, the sitting position with the fore limbs extended, rising partly up, then subsiding time after time, the patchy sweats gradually increasing and becoming colder, the haggard expression, the studied walk which later becomes a stumbling gait, the sobbing breath and running down pulse, the inability to feel the pelvic flexure on rectal exploration, owing to its being drawn back out of reach, the clasping of the arm by the rectum, and the excessive straining caused by its introduction.

Treatment. In most cases the treatment is disappointing, and if a recovery results it is very much a matter of luck. In the early stages the usual remedies for colic and obstruction, viz., a purgative accompanied by one or two sedative draughts, and if these do not relieve but rather increase the pain, a serious case may generally be anticipated. We may discover on examination per rectum that we have torsion of the bowel to deal with; I say *may*, because even then you may not be able to feel the displacement of the bowel. Personally, in all bowel troubles, I always start with a dose of barium chloride per ore, followed by stimulants, in fact I have totally abandoned aloes in cases of obstruction. If there is any tympany I do not hesitate to puncture, for I am quite convinced that I have had cases recover after puncture. When the distended small bowel could be felt I have punctured it through the rectum with success in two cases. I invariably follow on with an injection of Arecolin to increase the muscular contraction for I am of the opinion that sometimes a cure may be effected in this way, and even if not, it hastens the end of a fatal case.

Jelkman, in "Möller and Dollar's Surgery," claims to have effected a recovery of "torsion of the colon" in

quite a number of cases by retroversion, and I think you will agree with me that he is to be congratulated on his success. I have tried in several cases to emulate him, but have unfortunately failed, the clasp of the rectum round the arm, accompanied with the straining of the animal has rendered the task, at any rate in my case, beyond my skill.

THE NORTHERN TERRITORY.

By J. A. GILRUTH,

Professor of Veterinary Pathology, Melbourne University

For a copy of this Report, published as a Special number of *The Australasian Traveller*, we are indebted to an old and valued contributor to our pages. A tolerably full abstract is here given, as showing the breadth of the subject, and, incidentally, that given the man, the present day veterinary curriculum qualifies for wide views as well as for accurate knowledge and observation.

The Northern Territory, familiarly known to its inhabitants as the "N.T.," possesses at the present juncture great interest for every individual in the Australian Commonwealth, if for no other reason than that in the beginning of this year it passed from the control of the State Government of South Australia into that of the general Federal Government. Naturally it becomes desirable, therefore, that every Australian should at least have some knowledge of the problems and the possibilities of that country which is a State, yet not a sovereign State, within the Commonwealth.

Heretofore we have been in the habit of considering the southern shore of the continent the front door, for the chief reason that there has always existed the only entrance and the only exit. If looked upon as a possible door at all, the northern coast has at most been deemed a very poor back-door, and truly the entrances there have been few and the exits in goods or people none. Will this always remain so? While the future alone can decide, it is worth remembering that rarely is the entrance-hall of a dwelling facing the empty yard, while the back-door faces the busy street. We rather forget, when we consider our territorial dwelling, which is the empty yard and which is the busy thoroughfare of the world; for, this fair land being an island, we are perhaps too apt to view it as an orb in space without near neighbours. A glance, however, at the map (of which there are but few copies), showing the tropics of Asia and of Australia with the intervening islands, promptly convinces us that we have many neighbours. Lying very close to our northern littoral are the islands of the Dutch Indies, with a total population of nearly fifty million people, whereas a century ago there were but five. The nearest point is well under two days' steam from the northern capital. In this same zone, besides the Philippines and Borneo, as yet partly civilised, we see the tongues of Asia dipping downwards almost to the Equator. And when we consider that Hong Kong is in point of journey-time nearer to Port Darwin than is Sydney, the close connection between our continent and the "teeming East" begins to be realised.

Personally, I confess that until recently, when I was fortunate enough to be able to visit portions of the Northern Territory with my colleagues on a Federal Scientific mission, my ignorance was no less than that of the average tax-payer, who has to find his share of that £1,100 per day which the Territory is said to cost.

The total area is over 530,000 square miles, or five times the size of New Zealand, yet to-day we find the whole population, excluding Aborigines—but including Asiatics—a little over 3,000, of which the whites by last

statistics number 1,274. In 1908 the total number of Europeans was but 1,091, while in 1889 the number was 970. Even the native aboriginal population is sparse, though the exact number is unknown. The number of stock is exceedingly small when the area is considered, there being, according to last available statistics, under 400,000 cattle, and about 12,000 horses. Of sheep there are none, unless in the extreme south. A few goats are kept by station-owners and others for milking and as a substitute for mutton, while here and there a few pigs are kept. In other words, the country does not carry one domesticated animal to the square mile, and but one European per 450 square miles.

A study of the map shows that at all events the northern portion, particularly the great peninsula which forms the western border of the Gulf of Carpentaria, and is bounded on the west by the Timor Sea, and on the north by the Arafura Sea, is very well watered by rivers, such as the Victoria, the Daly, the Adelaide, the West and the South Alligator, the Liverpool, the Goyder, and the Roper, a number of which are navigable for many miles up from the mouth by sea-going vessels. Indeed, few parts of the continent, if any, are so well provided with permanent running waters.

It would be but reasonable to expect that along the banks of such rivers there must be large extents of flat or undulating country that should be available for the pursuit of agriculture in some of its many phases; that this is so our personal observation confirms.

For one who has been able to spend but two short months travelling through only a small portion of such a vast area to dogmatise on its possibilities for agricultural or any other development would be as presumptuous as absurd, the more especially as the season when I visited the Territory was the most favourable period of the year for general impressions. Yet one who has visited various parts of the world, and who for the whole of his life has taken a keen interest in all that pertains to agriculture, as I have, can hardly fail to form some general opinions, tentative it may be, on the possibilities as a whole.

Rightly or wrongly Australia has adopted almost unanimously a White Australian policy.

It is true that no white race has ever succeeded in permanently establishing itself within the tropics. But has it ever thoroughly attempted to do so in such a country as this? No, for the chief reason that all other habitable portions of the tropics were already supporting large numbers of coloured people long ere the white races were aware of their existence. Yet here is an enormous area within our borders, tropical no doubt, but practically empty of human beings! The European is distinct from other races chiefly in that he has the infinitely greater power of altering his immediate and general environment, in the narrow as well as in the widest sense, to suit his requirements. And is tropical Australia to prove that the limit of these powers has been reached? I trow not.

First of all, it must be frankly admitted that the Northern Territory is tropical. But that in itself does not argue the impossibility of agriculture. On the contrary, the tropics are, as a whole, more fecund than the other zones. In the parts where we travelled, droughts as experienced in the south are unknown. From the coast at Port Darwin to the Roper Bar, the rainfall gradually diminishes from 60 to 20–25 inches. Over this area the rain falls solely during the rainy or summer season (November–December to the end of March). The rainy season is perennial, and apparently as sure as the dawn of each day. For the remainder of the year there is the dry season, when no rain falls, and each day is fair and cloudless; and then it is winter, the coolest or least hot season of the year. Even the heat of the long dry season is not so detrimental to plant life as might be assumed, for at least till the end of August, or even

later, heavy dews are of nightly occurrence. So heavy were these dews on our overland journey to the Gulf during July that it was always necessary at night to place our garments under the mosquito tent: those left out were generally soaked by morning. At daybreak the first touch of the tent's roof meant an unwelcome shower bath, and on those tents with roof of double thickness frequently a pool of water could be seen. Such heavy dews naturally are of much benefit to the herbage, and prevent to a great extent the too early parching of the country. Chiefly to these dews, though partly to the comparative mildness of the daily temperature, combined with the absence of scorching winds, is attributable the fact that enormous areas of beautiful green grass could be seen in many parts during the trip, although no rain had fallen for over 100 days.

During the "wet" or summer season (there are only two seasons—the "wet" and the "dry") the climate by all accounts, and as to be expected, is trying to everybody—to the coloured people as well as to the white—and this is especially so near the coast, where the rainfall, and, consequently, the humidity, is greater. In the "dry," however, the climate is not unpleasant. Indeed, during our short stay in Darwin at the end of June, most people there complained of the undue severity of the cold, though to us southerners this appeared a decided exaggeration. Inland the weather was perfect. Rarely during the day did the dry-bulb thermometer register 80 degs., while the wet-bulb, the true indicator of the temperature as we feel it, was from 10-15 degrees lower. At night the temperature fell rapidly, generally reaching below 50 degs., at times below 40 degs., on one occasion 29.5 degs. being registered, when we were certainly not over 200 feet above sea level. Such conditions are decidedly not what one is led to expect at any time, at such a low altitude, within fourteen degrees of the Equator, and on some early mornings formed a not too agreeable surprise. Indeed, one of the party who has lived for a number of years in the tropics, and prefers to live in such latitudes, was once heard to exclaim ruefully, as he ran shivering from his blankets to the glowing camp fire, "This is no white man's country—it's too cold!"

What of the soil? That this varies greatly in quality is to be expected. As already stated, in the vicinity of Darwin the soil is, on the whole, poor and inhospitable. It is of a hard, gravelly, ironstone formation. From there to Pine Creek the railway line runs for 140 miles, mostly through mining country that is of little or no value for pastoral, let alone agricultural, purposes. Yet that there are patches of good land even amongst this, abundant testimony is borne by various Chinamen's gardens, where luscious pineapples, bananas, and other tropical fruits grow, not to mention the Botanical Gardens in Darwin itself, where so much good work has been done by Messrs. Holtze, senior and junior.

To the east of Darwin, near "Rum Jungle," there is a beautiful looking plain of black soil, doubtless wet and swampy in summer, but which, with drainage that should not be difficult, bids fair to grow anything from sugar-cane downwards. Still further east, running along towards and beyond the Adelaide River to the Mary and the Alligator Rivers, is an enormous plain composed for the most part of black soil, on which at present but a few station cattle run, besides large numbers of swamp buffalo, the descendants of those introduced many years ago by the early British settlements further north.

These plains, hundreds of miles long, seem to be, judging by what I saw, of rich alluvial black soil. At present they are water-logged, and so cultivation, which has been attempted by the indefatigable owner of the largest station (Mr. W. Laurie, a virile settler of thirty years' experience in the Territory), has been unsuccessful under present conditions. This to me was not surprising when I found stagnant water two feet

from the surface. But to-day, as everyone knows, some of the most fertile parts of the earth would still be much more useless bogs than the worst of these had man's ingenuity not transferred the water elsewhere by means of drainage systems. In my visit to these plains I crossed the Beatrice Hills—a range of quartzite a few miles long, whereon, many years ago, coffee was grown successfully by an early pioneering Company. Near this I touched the part of the Adelaide River, sixty miles from the mouth, whence some years ago numbers of cattle were embarked on board an ocean-going steamer and exported to Singapore, direct from the station whereon they were reared.

From Darwin, Prof. Spencer and I visited Melville Island, the home *par excellence* of the buffalo, where he has undisputed sway, there having hitherto been no attempts to breed cattle thereon. The ancestors of these buffalo were introduced by Sir Gordon Raffles in 1826, and they have multiplied so greatly that to-day the owner (Mr. E. O. Robinson) through his able superintendent (Mr. R. J. Cooper), exports annually about 1500 buffalo hides. This Island, consisting of about a million and a-half acres, should be admirably suited for cattle-raising purposes, so far as I was able to judge. It is excellently watered, and covered with open bush, amongst which is good herbage. The timber is mixed, there being a fair sprinkling of "blood-wood"—a white ant resisting timber—and other trees of less value. Perhaps in the years to come this island may become a dairying centre, but, meanwhile, it could be made a very fair cattle station by the expenditure of capital and energy. There is every evidence that at present it is free of ticks, the buffalo not being a natural host of these parasites, and this position should at all costs be maintained.

In our journey from Pine Creek, *via* the Katherine, to the headwaters of the Roper River and down the banks of that noble stream, we passed through country of varying character. Although, perhaps, the greater portion is of quartzite or sandstone formation, there are large areas of limestone country, and many hundreds of square miles of rich black soil covering a basalt formation were seen. Generally speaking, the country is more or less bush-covered; but the bush is open, and grasses of various kinds grow profusely. Often beautiful plains, where the rank grass was half the height of the horse, were crossed. Down the whole length of the Roper these plains are intersected at irregular intervals by quartzite ridges from 50 to 200 feet in height, the general trend being north and south, while here and there flat-topped knolls are common, indicating that formerly the country was covered by this quartzite or sandstone formation. The Roper itself commences at Bitter Springs, about 250 miles roughly from the sea, and pursues an easterly direction to the mouth. At the very source, which we visited, it is a considerable stream of water, issuing as a series of warm springs direct from the limestone. Here the water is slightly saline to the taste; hence the term "Bitter Springs." Within comparatively a few miles it broadens out into a magnificent stream, many yards broad, and many feet deep, with high banks. Two hundred miles from the mouth there is a reach thirty or more miles long, thirty to fifty yards broad, and twenty feet deep. Then for ten or twelve miles the river loses itself in the Red Lily Swamp—an enormous lagoon, from which it emerges after pursuing a tortuous course not yet explored, once more as a magnificent broad stream. The river, though broad and deep throughout almost the whole of its length, has no great current, by reason of several bars which divide it into reaches from twenty to fifty miles long. It appeared to us that were locks built at each of these bars, after a proper survey of the channel, this noble river would become navigable almost to its source, and so prove a valuable asset and a highway of the

country. Even now a coastal steamer visits, twice a year, Leichhardt's Bar, about ninety miles from the mouth, and I believe it would be possible to take an oil launch almost to the source, for the bars, which are not even difficult rapids, could be negotiated with a little persistence and ingenuity. Such is the Roper and its valley:—a magnificent stream bounded by broad plains which are intersected transversely by low ridges, all of which are grassed to the very tops. But the emptiness of this vast area is absolutely inconceivable. Some vague idea may be grasped from the statement that between the Katherine and Leichhardt's Bar, where there was a solitary mounted constable, we passed but one habitation, and that occupied by but one white man. Day after day, for three weeks, our party wended its way eastward without encountering a single wayfarer.

Now, how can this great emptiness be developed? To-day it is as empty as it was forty years ago, when viewed by the first white man. Will one ever from the ridges be able to see the homesteads of the settlers scattered over the plains? Surely it cannot—nay, it will not—be allowed to remain for long thus undeveloped, thus unoccupied even by the beasts of the field. Many thousands of square miles are not even selected on paper for cattle runs, and on these there is not a hoof print. Yet that it can grow cattle I have had ocular demonstration. Horses do well also; there is a "brumby" or wild herd on the Roper and Elsey Rivers, all in excellent fettle, and the lessees of the run are catching what they can and shooting what they can't catch. Pigs and goats do very well, but of sheep there are none, while dairy cows are unknown; indeed, all the cow's milk we partook of in the Territory reached us *via* the "tin."

It may be accepted that with irrigation the soil, even some of the poorest in the Territory, will produce almost anything. On three stations we partook of delicious melons, beautiful tomatoes, and vegetables of various descriptions, which seemed to grow with little attention, provided they were sufficiently supplied with water. At the Roper Mission Station banana plants were growing well, and several rubber trees, which, though planted but two and a-half years ago, are now ten to twelve feet high, testify that they will do very well with attention and a proper water supply. The cultivation of neither of these is looked upon as suitable for white men to engage in. But is this justified as an attitude? It is true that rubber at present is grown solely where cheap black labour is plentiful, and in climates where the white man could not possibly labour. The reason though is not the latitude so much as the excessive humidity of the atmosphere, for rubber, I believe, only succeeds where the annual rainfall exceeds 80 inches. Such a rainfall means a humid atmosphere and a rapid development of undergrowth, which must be kept down. Irrigation can, however, supply the moisture without the excessive humidity, and horse-drawn cultivators can do away with the necessity for much of the hand-labour. The mere tapping of the trees in a climate such as that of the winter season of the Northern Territory, and the further necessary labour in the preparation of the crude rubber, should not prove too onerous for white people.

Cocoon trees grow well, as can be seen in a small plantation of a few acres established near Darwin twenty years ago. The trees are tall, straight, and strong, and seem to bear well, although no attention is paid to them by their present owner, the area planted being too small to work commercially. Yet it serves to prove what might be done in this direction.

Upland rice will probably be found a very suitable cereal for cultivation in many parts of the Territory, and without irrigation. Experiments conducted by the Curator of the Experimental Gardens at Darwin are extremely encouraging. The swamp rice, commonly grown in the East, is, of course, impossible with white

labour; but the upland rice will grow in much drier situations, and possibly the land can be cultivated by machinery much as wheat land is cultivated.

In this connection it is of great interest to note that the American rice-grower is rapidly finding, according to official publications, that the employment of machinery "is revolutionising the methods of cultivation and greatly reducing the cost. The American rice-grower, employing higher-priced labour than any rice-grower in the world, will ultimately be able to market his crop at the least cost and the greatest profit."

Sisal hemp culture is being tested on a large scale, at the Experimental Gardens, with most encouraging results. Over fifty acres have been planted with this fibre-producing plant, and it is growing as well as it could in any part of the world. Many thousands of bulbils, or young plants, have been distributed to settlers who are anxious to experiment on their own lands, which shows that keen local interest has been aroused in this industry. Everything seems to augur well. The question, however, as to the suitability of sisal hemp culture with white labour, is not yet settled.

Good cigar-leaf tobacco is also grown in small plots in different parts. I am informed on good authority that samples submitted have been highly praised by experts, and, so far as the soil and climate are concerned, there is no doubt that everything essential for this crop exists in the Territory. Only experiment can demonstrate what possibilities are in store for tobacco cultivation as an industry, or a branch of agriculture, with white labour.

Cotton, both native and imported, grows well almost anywhere. If the cotton-picking machine of which one hears proves a success, and does not damage the flowers and unripe seeds, then there is no doubt that the cotton-growing industry will prove of the utmost value in many parts of tropical Australia. Without some such machinery, however, it is unlikely to ever become established without coloured labour to do the picking.

Most of the plants, whose cultivation I have referred to, do not, I am aware, appeal in any way to the Australian as part of the agriculturist's work, and, unless it can be demonstrated that other kinds of agricultural produce to which he is accustomed may be grown, neither he nor his British brother will care to seek his fortune in the North, at least in any great numbers. But are other products impossible in such a country? To assume so would be rash indeed, especially in Australia, many parts of which, formerly considered little better than desert, are to-day prosperous agricultural settlements. When considering the North we are apt to forget, if we know, that India has something like 23,000,000 acres annually under wheat. It is true that the wheat grown in India is of the coarse bearded variety; but it is also true that experimenters there are beginning to find that some Australian varieties promise better results than any hitherto cultivated. Of course, it is likely to be argued that India has cheap native labour and intense cultivation with irrigation. As regards the labour, cheap land enables a higher price to be paid, and anyway the Australian methods of wheat-growing do not concern themselves with the spade. As for irrigation, in many parts of India the soil is not irrigated for wheat. In Pusa and Muzaffarpore districts, for instance, where the rainfall is about 40 inches, irrigation is not resorted to for wheat-growing. The rainfall there occurs during only three to four months of the year, all of which is comparable to certain parts of the Northern Territory. Even in the vast tract from the Katherine to the Roper River, where the rainfall gradually diminishes from 35 to 40 inches to 20 to 25, it seems not unreasonable to suppose that, with proper methods of "dry-farming," such as are now so well known in Australia, and with rapidly-maturing wheat, this cereal could be grown successfully if sown just before the end of the wet season, or at all events imme-

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended April 27	18		18				2	5	53	91	1	91	1101
Corresponding week in	1911	22	28	33			4	4			3	78	782
	1910		25	31			10	18			4	22	195
	1909		31	31			16	32			10	45	308
Total for 17 weeks, 1912	393		443				57	134	1760	3987	149	1106	14025
Corresponding period in	1911	342	398	645	1	18	71	214			292	755	7939
	1910		522	671			124	312			301	381	3032
	1909		485				215	839			409	515	4772

Board of Agriculture and Fisheries, April 30, 1912.

* Counties affected, animals attacked: London 5.

IRELAND. Week ended April 27	...	...	...	...	...	...	...	Outbreaks	7	4	44
								...			
Corresponding Week in	1911	...	...	...	...	...	...	1	8	1	67
	1910	...	...	...	...	...	1	2	14	8	113
	1909	...	...	...	...	...	...	2	2	...	23
Total for 17 weeks, 1912	...	1	1	...	...	...	...	31	241	87	712
Corresponding period in	1911	...	3	3	...	...	1	2	37	224	45
	1910	...	4	6	...	...	1	2	29	291	29
	1909	...	2	2	...	...	...	...	37	253	10

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 29, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

diately after it, just so soon as the land becomes workable. If successful, the question of the settlement of this Territory by whites, so far as large areas are concerned, would be immediately set at rest, and for all time.

The same necessity for experiment-demonstration farms seems to me to exist for wool production. Sheep have been brought to the Territory in the past by one or two settlers, notably by Mr. A. Giles; but their breeding was ultimately given up. Although I made numerous inquiries as to the reasons for abandoning sheep-breeding, the information I received did not satisfy me that there was any real justification for the conclusion that sheep are unfitted for much of this country—that is, under proper conditions. In a country absolutely in a state of Nature, without dray-roads, without any fences, with water-holes in the dry season often over ten miles apart, with even no herding, and with spear grass and such vegetable annoyances to the wool-grower not kept down by grazing, it is not surprising that sheep were troublesome to look after, and that cattle were preferred on such enormous holdings, many thousand square miles in extent.

That the Territory has its drawbacks goes without saying. The absence of roads, and the practical absence of railway facilities, are potent, but may be remedied. Freezing-works are also wanting, but whenever the number of stock suffices, their establishment will be prompt.

The white-ant and the ant-hills are in many places serious, but science, if its services were properly enlisted, might show a way to eliminate, or at least diminish, them greatly. On the other hand, the stock,

especially the cattle, are healthy, the climate during half the year is very pleasant, the soil in many parts is good, there is much timber suitable for fencing, etc., the country is well watered by rivers, and above all, the rainfall, though limited to one season of the year, is certain. Such a country cannot much longer lie empty; it will surely be filled—by whom?

"Vivisection and the Veterinary Profession."

To the Editor of The Referee.

Sir,—I read with great interest "Pate, J.P.'s" letter on Vivisection and the Veterinary Profession, and I simply ask this question: "Is it true that unqualified men can perform any operations they like on animals and administer whatever drugs they choose and the law cannot intervene?" Surely if it were not true "Pate's" statements would have been contradicted.

I did wonder why there were no letters from the veterinary profession in this interesting correspondence that has been going on in your columns, because I note in a leading veterinary journal that there is an article which excuses people from calling in a qualified vet. because they cannot afford it, and there is at least one advertisement where a fully qualified man advertises for an unqualified assistant. Comment is useless when the profession itself stoops to such dealings, but for the sake of common humanity "Pate's" statements should receive official support.—I am, sir, yours, etc.,

ROBERT SMYTH.

Upper Tooting, April 15.

The Veterinary Profession.—Why there are so many Unqualified Assistants.

To the Editor of *The Referee*.

Sir,—I can tell "Pate, J.P.," whose letter in *The Referee* I read with great interest and the contents of which I wholly approve of, why there are so many unqualified assistants in the veterinary profession. It is because a young fellow who has just obtained his degree knows so little of the first rudiments applying to all sorts of animals. He knows little or nothing of castration, of the keeping and handling of stock, because he has never had any practical experience at college. I will quote a case in point, not in the slightest way exaggerated. A friend of mine, a Government veterinary inspector, engaged a duly qualified young vet. fresh from college and sent him to castrate some colts, some of which had been operated upon. The young professional, full of zeal, proceeded to try and operate on one of the animals which had been castrated. Small wonder was it that the owner, a very rich and profitable client, closed his acquaintance with that Government inspector.

Now, the unqualified operator has had his knowledge handed to him by those he has served under. He is greatly skilled in that branch of his calling; he understands the handling of stock and their requirements. He has a rough-and-ready way of personally dealing with animals which pleases the farmer. It is not the fault of the fresh qualified man that he fails in these matters, it is the fault of his training; and I venture to think that if the curriculum were again reduced to three years, and portions of the examinations were eliminated which are absolutely of no good to a man in his practice, and much more attention was given to practical surgery and the life management of all kinds of animals, that the young vet. would be far better fitted to be of use in his profession at once, and that very soon the unqualified man would drop out of that place which he occupies now from a matter of necessity.—I am, sir, yours, etc.,

C. J. RICHARDSON.

West Hampstead, April 23.

Cruelty Prosecution at Wolverhampton. Dismissed, with Costs.

At Wolverhampton County Police Court, before Mr. Loftus B. Moreton, Mr. Samuel Bayliss, and His Honour Judge Smith, Frederick James Reavy, 34, mineral water manufacturer, Hen and Chickens Yard, Dudley Street, Wolverhampton, was summoned at the instance of Inspector F. Slattery, of the R.S.P.C.A., for cruelty to a mare. Mr. A. Turton defended.

Inspector Slattery said that on the 19th ult., he visited a field at Compton and saw a mare, belonging to the defendant, grazing. The animal was lame in the fore-legs, due to acute inflammation of the feet.

Cross-examined: The animal was suffering from what was known as "fever in the feet" and it was cruelty to turn it into a field in that condition.

Mr. J. E. Cartwright, veterinary surgeon, said he saw the mare and found that the case was an exceptionally bad one. The mare was hobbling about in a good deal of pain, it was causing her pain to move and it was cruelty to let her walk about to graze.

Mr. Turton said the case was one in which there was going to be a dispute between professional gentlemen. The defendant, as a layman, acted on the advice of his veterinary surgeon Mr. J. H. Bates, and a man was obliged to act on the advice of his veterinary surgeon, the same as he was with his doctor or, in a greater degree, his lawyer. There could be no intentional

cruelty where a man acted on professional advice given him.

Defendant gave evidence that he was managing partner of Messrs. Smith and Co., who kept several horses. Witness called in Mr. Bates to this mare, and it was on the advice of Mr. Bates that the animal was taken from the stable to the field at Compton. The mare was also visited in the field by Mr. Bates and by witness. Witness's knowledge of horses was sparse and he relied on his veterinary surgeon.

Mr. Bates, called as a witness, said he had had 25 years' experience as a qualified professional man. He was called to this mare and advised her removal to the field. She was walked there and was "perfectly fit to go." The best treatment for a horse in such a condition at a certain stage was slow exercise. He should give the same advice to-morrow as he had done in this case.

Mr. Turton intimated he had also another veterinary surgeon—Mr. Johnston, of the firm of Messrs. Cartwright and Kidd, but he would leave the case where it was.

Mr. Loftus Moreton: The case will be dismissed.

Mr. Turton then applied for costs to be granted against the society, and said the inspector knew that his client was being professionally advised. The defendant had also been put to a great deal of expense to build up the defence.

The magistrates granted Mr. Turton's application.—*The Midland Evening News*.

Experiments in Maize Feeding.

A series of experiments covering four years by the College of Agriculture of the University of Wisconsin has shown that cows fed only on maize produce large vigorous calves and were in good condition throughout the experiment. Those fed on wheat produced undersized calves either dead at birth or dying shortly thereafter. Those fed on oats were better than those fed on wheat, but not so good as those fed on corn. The experiments, says *Hoard's Dairymen*, have demonstrated that the value of feeds for cattle cannot be determined absolutely by the amounts of digestible feed which they contain, and that certain physiological effects of different feeds, which hitherto were considered of practically no importance, have a vital effect upon the health of cattle. In view of the commonly accepted theory as to the insufficiency of maize alone as a food, the results of the experiment are interesting.

Export of Horses.

During last year 9342 horses were examined at Custom House Quay and Fresh Wharf before shipment to Rotterdam. Of these 280 were rejected by the veterinary inspector of the Board of Agriculture, and 43, which suffered either from glanders or parasitic mange, by the City inspector. Compared with the previous year, this showed a decrease of 473 in the number examined and an increase of 112 in the number rejected.

In Wiltshire a causeway built and endowed by a market woman in 1474 still serves its purpose of bringing the neighbouring villagers dryshod into the ancient market town of Chippenham. It runs from Chippenham Cliff to the top of Wick Hill, in Bremhill parish, a four-and-a-half mile road, traversing the heavy clay of the low-lying lands on either side of the Avon. The raised stone footway is placed high above the horse road, and is kept in good repair to-day, as it has been for some 450 years. The good Maud Heath not only saved enough to build the road, but pursued her trade so wisely that she was able to leave property in trust for the maintenance of her road.

REVIEW.

HANDBUCH DER SERUMTHERAPIE UND SERUMDIAGNOSTIK IN DER VETERINÄR. MEDIZIN. Unter Mitwirkung von Dr. Oluf Bang, Copenhagen; Prof. Dr. Oskar Bail, Prague; Prof. R. Grassberger, Vienna; Dr. G. Grosso, Budapest; Dr. F. Hutyrá, Budapest; Prof. Dr. C. O. Jensen, Copenhagen; Dr. R. Klett, Stuttgart; Prof. Dr. M. Klimmer, Dresden; Dr. F. Löffler, Greifswald; Prof. Dr. H. Miessner, Bromberg; Dr. Noack, Dresden; Prof. Dr. Paul H. Römer, Marburg; Prof. A. Schattenfroh, Vienna; Dr. Josef. Schnürer, Vienna; Dr. Schmidt, Dresden; Dr. Seitz, Berlin; Dr. Sieber, German South-West Africa; Dr. Theiler, Pretoria; Dr. Georg Wolfsohn, Berlin; Dr. A. Wolf-Eisner, Berlin. Herausgegeben von Dr. M. Klimmer und Dr. A. Wolf-Eisner. Band II vom Handbuch der Serumtherapie. (Pp. 495. Four Plates. Price—stitched, 18 marks—bound, 20 marks. Published by Dr. Werner Klinkhardt. Verlagsbuchhandlung, Liebigstrasse 2. Leipzig.)

Only the fact that comparatively few British veterinary surgeons are familiar with the German language prevents us making a very extensive review of this valuable book. It is the second section of a two-volume publication, the first section having been issued some time ago. The first section, which deals with serum therapy in human medicine, has had a wide circulation, and has already been translated into Spanish and Russian. The present second volume, dealing with the same subject from a veterinary point of view, will be no less valuable than the first. The first volume was published under the editorship of Dr. Wolf-Eisner, with numerous collaborators. For the second, Dr. Wolf-Eisner has obtained the aid of Prof. Klimmer as co-editor, with, as is indicated in the subtitle, a powerful list of collaborators.

This extensive collaboration is one of the most valuable features of the work. Broadly speaking, the book may be best described as a series of long distinct articles, each consisting of a methodical and detailed exposition of the present knowledge of a particular department of the subject, and each written by a specialist. Dr. Theiler, for instance, writes upon rinderpest serum and active immunisation against rinderpest; Dr. C. O. Jensen deals with inoculation against diseases of calves, specific prophylaxis and therapy against streptococcal diseases, inoculation against bradspot, and protective and curative inoculation against canine distemper; while the numerous remaining subjects are entrusted to equally capable hands.

The theoretical part of the subject receives ample consideration; but the aim of the work is nevertheless essentially practical. Full information is given of the methods of preparing and employing the various sera and vaccines, their value is estimated—generally by means of statistics—and their advantages and drawbacks indicated. An appendix at the conclusion of the volume gives the prices of the different products, with the names and addresses of firms supplying them.

In addition to protective and curative inoculation, the whole subject of sero-diagnosis (including agglutination, precipitation, and complement-fixation) are very fully dealt with; and here again special attention is given to the technique of the various procedures. Finally, the work includes sections upon the bacterial destruction of mice, and the campaign against rats.

The names of the numerous authors speak for themselves; and the work is of the quality that might fairly be expected from such men. We know of no single book which conveys anything like the same amount of information upon these particular subjects to the veterinarian. It may be unreservedly commended to every veterinary surgeon who can master the language in

which it is written, whatever his line of work may be. Much of its matter concerns methods which are, or soon may be, current in daily in daily practice; and therefore it will be very valuable to the clinician. It will perhaps be even more valuable to the pathologist.

LANG'S BREEDERS' DIRECTORY, 1912. (R. T. Lang, Ltd., Tudor House, Tudor Street, E.C.)

This work is a directory of the breeders of various species of livestock—horses, cattle, pigs, sheep, goats, dogs, rabbits, poultry, pigeons, and bees. As the only breeds of horses included are the Shire, Clydesdale, Suffolk, and thoroughbred, the equine section cannot be called satisfactory; and it is rendered still less so by some curious reduplication of the pages dealing with the two first named breeds. Other sections are, however, less imperfect; and on the whole it may be fairly said that, despite some manifest flaws, the book will be of some use to breeders in the present initial form. The present being the first edition, we may hope to see considerable extension in subsequent tissues.

W. R. C.

CORRESPONDENCE.

THE ANNUAL DINNER OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Sir,

I am sure that the profession will be pleased to learn that His Excellency the Lord Lieutenant has promised to be present at the Annual Dinner of the College to be holden in Dublin on June 5th, 1912. A considerable number of members of the profession have already intimated their intention to be present, many accompanied by guests, and I should be glad to have the names of any members from Great Britain who intend being present, that the necessary arrangements may be made without delay. A representative committee, to have charge of the dinner arrangements, has already been formed.—Yours faithfully,

G. E. HAINES.

Registrar of the Royal Vet. Coll. of Ireland.

CANKER OF THE HORSE'S FOOT.

Sir,

After reading Mr. Pillers' interesting article on "The improved method in the treatment of canker of the horse's foot" [in your last issue, I am induced to send you the treatment that the late Prof. Simonds recommended to his class in the early fifties. It was as follows:

After the foot has been well prepared, mop the cankered parts with pure nitric acid, then sprinkle them freely with sulphate of copper, and cover the whole with Stockholm tar, and repeat this dressing every third day.

The directions for preparing and dressing the foot are so well and so fully described in Mr. Pillers' article, that it is unnecessary for me to repeat them, but I may add that if a plate of sheet iron is screwed on to the shoe, more rolls of tow can be packed in, and this will ensure greater pressure and keep the foot dry. This we were told was indispensable. Moss litter or sawdust is preferable to straw for bedding.

I have never applied Nitrate of copper direct, as Professor Simonds used to say that it was not so effectual as when formed on the seat of disease.

I may mention that I practised in Salisbury the greater part of my life. The disease is not so prevalent in agricultural districts, but I have had some excellent results from the above treatment, and I do not remember having had any relapses. I have also found this treatment an excellent remedy for foot rot in sheep.

I must quote Mr. Pillers' wise remark, "Plenty of uninterrupted time and a strong liking for thoroughness are invaluable in treating those cases.—Yours faithfully,

T. AUBREY.

Sir,

On reading the discussion on the above in your last week's issue, especially on the point which Mr. Pillers pins his contention that the "novelty" and originality is in the application of the tow in firm rolls, I am tempted to ask, "Is there anything new under the Sun?" If it will interest Mr. Pillers to know that forty years ago, when but a child or little more, driving about the country with my father, I witnessed him on several cases of canker, how he used to roll the tow up in pledgets as hard as ever he could and pack them in over the sole, held in sometimes by iron straps crossways, and sometimes the iron plate, frequently stating that the pressure cannot be too great, as it was the all-important thing, and the free use of the drawknife, but always careful to avoid bleeding, and he seemed annoyed when such did at times happen.

As to the drugs he used, Carbolic Acid, Zinc Sulph. Copper Sulph. Antimony, the hot iron, varied accordingly. Other agents he may have used, but the above I know.

Personally I have used the above, and have also tried Perchloride of Mercury in spirit; Formalin in varying strengths; and as a dusting powder, Boracic and Zinc Sulph. mixed. One case which I had in a big sized Farm Horse in both hind feet, extending over the whole surface of the sole and frog. My first examination and advice was to have it destroyed, but I was told that such would not do. I must treat, not kill. In this case money was no object, as the prompt and ungrudging payment of bills indicated. I treated it for two years, several times breaking out afresh, but eventually dried up and became absolutely cured. That was twelve years ago, and I saw the horse last year at work and still correct. Doubtless one could not afford the time nor the patience as the above often.

I was frequently disgusted and sick of it.—Yours, etc.,
Ochilview, Dunning. A. W. LAWSON.

UNQUALIFIED ASSISTANTS.

Sir,

Seeing the subject, employment by veterinary surgeons of unqualified assistants, has again aroused the attention of our Council, I venture to offer a few remarks which I assure the Council and the veterinary profession generally are made without any prejudice, and with a firm resolution not to enter into correspondence on the matter.

I will ask newly qualified men seeking situations as assistants not to think I am making any suggestions against them; I assure them I am not. No man likes young men more than I, or would do more for them. One reason I regret to be getting old is, that I cannot have more of them about me.

I think there can be but one opinion regarding the question, and that is—All freshly engaged veterinary assistants should be members of the Royal College of Veterinary Surgeons.

I am surprised to see members of the profession advertising for unqualified men. The same view I now hold I expressed some few years since when a discussion on the subject took place in the Council Room, during the time I had the honour of belonging to the Council. I am a Veterinary Surgeon who have living with me an assistant who is not an M.R.C.V.S.; who never professes to be. My employers know he is not, and are as pleased to see him to do the work he does as they would be to see me. He has been with me many years. He attended the Royal Veterinary College, Camden Town, as a student one Session—1874-5 I think it was—having previously served a pupillage. After the vacation, through no fault of his, he was unable to return to College.

He is not kept from any menial object, nor is he ever asked to do anything derogatory, or that I could not, nor would not do myself.

During the years this assistant has been with me I have had some few veterinary assistants—some newly qualified, others who have passed some little time. I have had gentlemen from each of our present schools, and from the one that was. I make no comparison, and have nothing to say against any. A few have been really good men, as proved by positions they are now holding.

Not one of these men when he first came to me could have filled the place of my unqualified assistant in a hard-working country practice, in which all branches of veterinary work are included; as my valued friend and fellow-student, Wm. Hunting, once remarked, any amount of Colic, Castration, and Cow Calving, and of course other rough work.

My point and reason for writing is—undoubtedly, there are other men in the same position as the one to whom I refer. Can it be expected that such men are to be thrown out of the only means they possess of obtaining a living? A man 60 years of age knows no other business, and if he did, is too old to start at a new game. I don't think this subject has been clearly understood, as one of the leading members of Council, in a speech on April 12th, said: "I venture to remind this Council that there is, or was, at any rate, a pretty widely expressed feeling that this Council did less than its duty in not putting into the Bill which is now before Parliament a clause to the effect that practice by unqualified persons should be prevented;" that is to say, it was suggested that we ought actually to seek powers. Surely some stipulation would be made for men who could be certified by members of the Royal College of Veterinary Surgeons to have served as unqualified assistants for a given number of years.—Yours truly,

WM. BOWER.

East Rudham, King's Lynn, May 1st.

VIVISECTION AND THE VETERINARY PROFESSION.

Sir,

I read with much attention "Pate, J.P.'s" opening letter on vivisection and the Veterinary profession, but I fear legislation cannot bring about the required reforms. It rests with the Veterinary profession to put its own house in order.

The cause of the whole question is explained in Mr. C. J. Richardson's letter, which appeared in the *Referee* of April 28th, entitled, "Why there are so many Unqualified Assistants?"

To my mind a copy of this letter should be sent to every qualified veterinary surgeon in England, and they should be requested to say if they agree with the suggestions, that the curriculum be reduced to three years, certain items be eliminated from the exams, and special attention be given to practical surgery, such as castration, etc.

I would go further, and suggest that every student before he could go up for his final should produce a certificate signed by a qualified man with whom he had been during his vacations, to the effect that he had a practical knowledge concerning the castration of all kinds of animals. That he could cast and handle in a practical way, and understood the whole management of all kind of stock. And if the majority of the qualified men were in favour of such alterations, then the matter should be placed in the hands of the governing authority of the R.C.V.S.

I believe that if this were done the Veterinary profession would soon regain its old standing, and the unqualified man become a thing of the past.—Faithfully yours,

C. E. PETLEY.

192 Victoria Road, Old Charlton, Kent.

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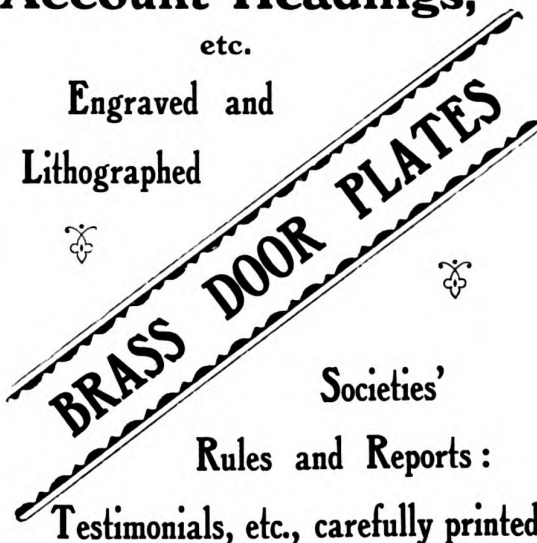
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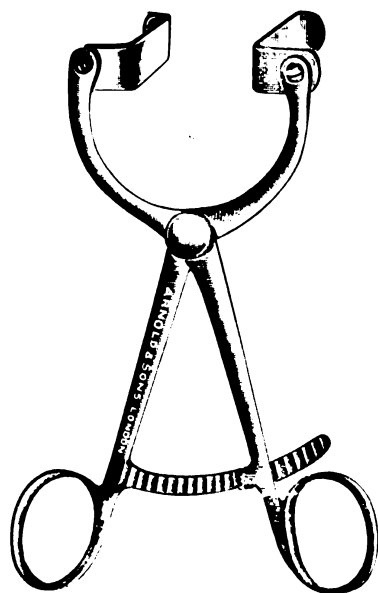
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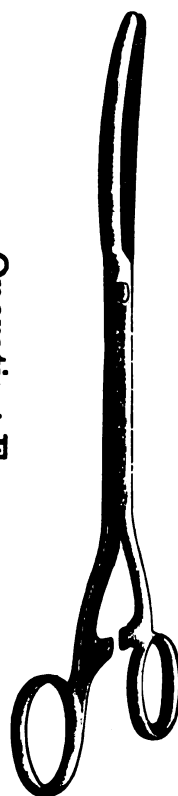


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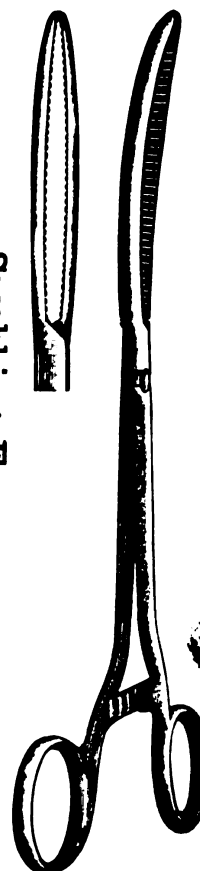


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No. 1244.

MAY 11, 1912.

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These Advertisements will not be inserted unless prepaid, and if replies are to be received at this office an extra sixpence must be included.

ANNUAL DINNER OF THE ROYAL COLLEGE OF VETERINARY SURGEONS, June 5th, 1912.

THE Annual Dinner will be held on Wednesday evening June 5th, 1912, and Members of the Royal College wishing Tickets (One Guinea each), for themselves and friends, are requested to communicate at once with the undersigned: the Secretary of the Dinner Committee, GEO. E. HAINES, Registrar, Royal Veterinary College of Ireland, Ballsbridge, Dublin.

Southern Counties Veterinary Society

THE 31st Annual General Meeting will be held at The Royal York Hotel, Brighton, on Tuesday next, 14th inst. Business: Routine. Election of officers, etc. Paper on John's Disease. The president, Mr. William Hunting, will take the chair at 2.30 p.m.
J. ALEX. TODD, Hon. Sec.

Midland Counties V.M.A.

A MEETING will be held at The Swan Hotel, Stafford, on Tuesday, May 14th, at two p.m. The President, W. H. Brooke, Esq., in the chair. Agenda: Routine business. Inaugural Address by the President. Brennan Devine, Esq., F.R.C.V.S., Birmingham, will read a paper on "John's Disease." Tea at 5 o'clock.
Camden House, H. J. DAWES, Hon. Sec.
West Bromwich.

City of Sheffield.

APPLICATIONS are invited from qualified Veterinary Surgeons for the position of Junior Assistant Veterinary Inspector to the Health Committee of the Sheffield Corporation. Experience in cattle practice and certificate of a post-graduate bacteriological course will be considered recommendations. The person appointed must reside within the City and devote his whole time to the duties. Salary £150 per annum.

Applications stating age, qualifications, together with copies of three recent testimonials to be sent to the undersigned, endorsed "Assistant Veterinary Inspector" on or before May 15th, 1912. The successful candidate must be prepared to commence duties at once.

JOHN S. LLOYD,
Town Hall, Sheffield. Chief Veterinary Inspector.

To Veterinary Surgeons

ADVERTISER, 38, unqualified, been to college, fine horseman, good operator: assistantship or buy share in practice: well up in hunting work, thoroughly knows the game. Address, 2058 V.R., 20 Fulham Road, London, S.W.

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Canine Practice for Sale

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To Veterinary Surgeons

FINAL year student up for exam. this month, seeks situation in mixed practice for the summer. Address 2059 V.R., 20 Fulham Road, London, S.W.

Student Wanted

IN an extensive country practice, Norfolk, must be good horseman and dispenser. State age, terms and experience: one able to start immediately preferred. Give name of practitioner for reference. Address, 2051 V.R., 20 Fulham Road, S.W.

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Partner Wanted.

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Assistant Wanted

MR.C.V.S. practical, steady for colliery and mixed practice in Lancashire. Must be experienced in parturition. Salary £160 to commence. Live out. Address, 2053 V.R., 20 Fulham Road, London, S.W.

For Disposal

SUSSEX. For immediate disposal through ill-health, genuine country practice established 20 years; returns about £400. Suit young energetic man. Price very moderate to quick buyer. Address, C. F. F., 42 Canonbury Square, Highbury, N.

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GOOD, sound, large scope for increase, about £200. Agricultural, hunting district, Midlands. Expenses low. House, stable, low rent. Possession now or June. Drugs, etc., low premium. Address, 2054 V.R., 20 Fulham Road, London, S.W.

Locum Wanted

TO take charge of country practice from May 29th until June 17th. Must be steady. A practical unqualified man will do. State terms indoors. Address, Rawlins, Chesterfield.

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WANTED, Caponing instruments. State price, etc. Address, Stinson, Marden, Kent.

To Veterinary Surgeons

CANINE nurse or dispenser, widow of M.R.C.V.S. wishes post as above. Experienced town and country. Address, 4042 V.R., 20 Fulham Road, London, S.W.

As Locum Tenens

WANTED, young qualified man to act as locum tenens for about three weeks from May 21st. Apply, giving references and stating salary required, to 3048 V.R., 20 Fulham Road, London, S.W.

To Vendors.

WANTED Veterinary Practices and Partnerships. Surgeons wishing to sell the whole or a share of their practices are invited to communicate with Messrs. Peacock & Hadley, Veterinary Transfer Agents, 19, Craven Street, Strand, W.C., who will be pleased to introduce likely purchasers. No charge whatever made unless a sale be effected.

Missing Numbers

OWING to claims for missing numbers reaching us often many weeks after date of issue, we have to notify that claims for non-delivery will not be accepted if the date of origin is later than four weeks from date of due delivery in the case of foreign subscribers, or more than fourteen days after printed date in the case of inland subscribers.

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FOR SALE, a large quantity of Chlorodyne, full strength, B. P. 1885, at 2/- per pound. H. J. Pratt, Wholesale Druggist, Cleckheaton.

Replies to Numbered Advertisements

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BY

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Fellow of the Royal College of Veterinary Surgeons;

Fellow of the Institute of Chemistry;

Late Director-General, Army Veterinary Service.

This book has been almost entirely rewritten and many new illustrations have been added. Although the general scope of the work remains the same, some of the chapters have been much extended and the whole revised in accordance with the latest teaching.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1244.

MAY 11, 1912.

Vol. XXIV.

UNQUALIFIED ASSISTANTS.

Two questions, which though quite distinct from one another are yet closely allied, are just now engaging the attention of our correspondents. One is the old problem of how best to increase the practical knowledge of our young graduates. The other is the recent resolution of the Council against the employment of unqualified assistants. The former question may be dealt with at length later; at present, we are concerned solely with the latter.

We are in full accord with the repression of the practice of employing unqualified assistants. Doubtless some of them are deserving men individually—and so, it may be added, are some unqualified men who practise independently. But unqualified assistants as a class are probably nearly, if not quite as detrimental to the best interests of the profession as are independent unqualified practitioners, though the harm they do is less obvious. The general employment of unqualified assistants to do strictly veterinary work certainly does not raise our profession in popular estimation. Again, unqualified assistants, occupying positions which should rightly be held by qualified men, render it difficult for the young graduate to either earn a living or gain professional experience. Finally, we all know that unqualified assistants, if the opportunity arises, are very apt to commence practice independently; and not a few of the independent unqualified practitioners, who are still too abundant, have gained their knowledge in the service of veterinary surgeons. In giving up unqualified assistants, we shall be cutting off a fruitful source of the supply of unqualified practitioners. For these and other reasons, we are glad that the Council has at last decided to take action.

The Council, of course, will act not against the unqualified assistant directly, but against the veterinary surgeon who employs him. It is not quite clear, however, how far the Council are prepared to push such action at first. The actual resolution passed condemned the practice of "employing unqualified assistants in ways calculated to lead the public to believe that these assistants are qualified to practise veterinary medicine and surgery." This sounds rather vague; but one of the most influential members of Council subsequently defined it as meaning that "we are prepared to take action against any member of the profession who employs an unqualified assistant to do the work which is generally done by a qualified assistant."

Undoubtedly this stops the employment of the unqualified assistant in the form in which he is most useful from one point of view and most objectionable from another—the man who regularly visits cases, performs operations, and, in a word, does everything connected with veterinary practice except the very few things which can only legally be done by a graduate. It is possible, of course, that some allowance may be made in individual cases for the next few years—that a few unqualified assistants of very old standing may receive special consideration. But any such lenience, if shown at all, will probably be reserved for exceptional cases. Practitioners cannot too clearly remember that the keeping of unqualified assistants has now practically been declared illegal. The veterinary surgeon who continues to employ an unqualified assistant—whether in his main practice or to manage a branch—is risking trouble. The veterinary surgeon who deliberately engages a new unqualified assistant is simply challenging prosecution.

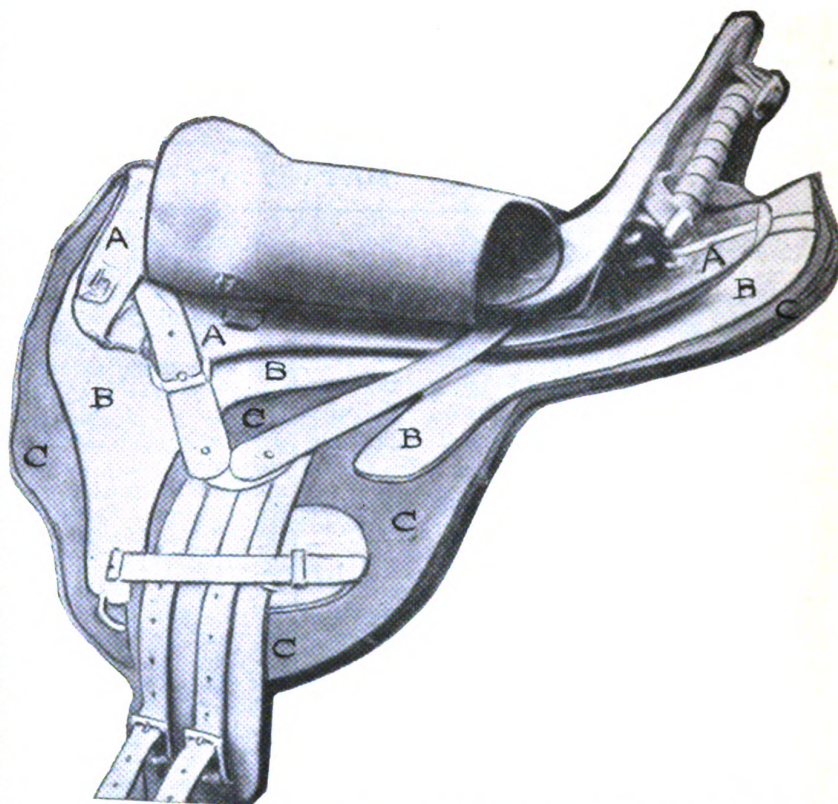
There is another type of unqualified assistant to be found in most large practices—the mere skilled attendant upon animals, who is employed to wash dogs, give medicines, and generally perform the same sort of services which are allotted to the trained nurse of human beings. Of course there is no proposal to interfere with these men, who are far removed from the really objectionable unqualified assistants. So long as their independent work is confined to first aid in emergencies, they are valuable in all practices and indispensable in some. But it should be remembered that these skilled attendants have often developed into unqualified assistants and unqualified practitioners in the past—some of the men registered under the Act of 1881 came from this source—and practitioners employing such aid should therefore be careful in the use they make of it. A busy practitioner, having such a man upon his staff, is constantly tempted to use him for work that should be done by a qualified man; and so many a flourishing quack has been first made. A commendable rule would be—let no unqualified assistant visit a case, unless to give medicine or take other measures prescribed by a qualified man after first seeing it.

PREVENTION OF SADDLE INJURIES.

It is well known to our readers that the subject of saddles and saddle galls is one of the deepest interest to the Army Veterinary Corps and to the Army at large. So far no saddle is known which will not gall; pneumatic pannels give some hope in that direction, but there are structural difficulties in the way.

It is, therefore, with peculiar pleasure that we place before our readers the latest in gall-preventing saddles, devised by Major Eassie, D.S.O., A.V.C., and which is said to protect the back so effectively, that horses suffering from injuries may continue at work without retarding the healing of the part. Major Eassie has provided the horse with a metal skin, which is placed on top of the felt saddle cloth used on all Army horses (known as a numnah). The saddle rests directly on the metal surface, while between it and the skin lies the numnah. In the illustration, **A** is the saddle tree, resting on **B** a thin metal plate which takes the shape of the back, and of suitable width and curve at its various parts; **C** is the felt numnah to which the armour plate is secured. The friction between the saddle and the back is expended on the metal surface.

Trials made of this contrivance in India have yielded most satisfactory results, and so far no disadvantages have been disclosed. We wish it every success; the idea is in accordance with physiological necessity and is most ingenious.



IRRIGATION OF JOINT CAVITY.

In his address to the Eastern Counties V.M.A. on "Some Joint Diseases of the Horse." Mr. William Hunting is reported as saying, "I regret to say that I have not tried washing the joint out with antiseptics, a course that seems to offer useful possibilities."

Seeing no allusion to this point in the discussion I am sending you the following history of a case which occurred in my experience in case it may prove of interest.

Subject.—Chestnut gelding, one of nine remounts bought at Mooi River horse fair on 11th Nov., 1909, and left loose with the others in a kraal for the night. Forage was well distributed and the horses fed from the ground.

Nov. 13th, 1909. Brought to Sick lines at Headquarters with contused skin wounds over orbital arch and wing of atlas. Antiseptic lotion and dry dressing applied.

14th. Synovial discharge from wound over

orbital arch. Oil of cloves and Zinc oxide applied and sloppy diet ordered.

15th. Discharge increased, coagulum adherent and synovia running freely. Treatment as on 14th.

16th. Large coagulum, and synovia running freely. Treatment as before.

17th. Coagulum gone. On moving jaws synovia discharges freely, and on slight pressure below wound a quantity of coagulated synovia is squeezed out. Treatment changed to cold cotton wool swabs soaked in a 1:1000 Hyd. Perchlor. solution and bandaged in position; changed twice daily.

19th. Trace of blood-stained pus in coagulum squeezed out. Treatment as before.

20th. Blood-stained pus in synovia much increased and pocket forming below wound. Probe passed into wound to bottom of pocket and point cut down upon. Joint cavity thoroughly irrigated by gravitation with a 1 in 20 solution of Tinct. Iodine in distilled water. All aseptic precautions taken, and wound then covered with aseptic dressing bandaged in position. Irrigation twice daily.

22nd. I left on inspection duty and left instructions for joint to be irrigated from lower (operation wound) once daily, and original wound allowed to close.

28th. Much improved. Original wound almost healed, and very slight discharge of clear synovia from operation wound during mastication. Irrigation as before. Bandages causing irritation, and horse inclined to rub his head, so discontinued bandages merely using small flake of cotton wool.

29th. Clear synovial discharge just perceptible during mastication. Discontinued irrigation. Painted wound with Clove oil, and dusted with Iodoform and Zinc oxide.

Nov. 30th to Dec. 6th. Progress satisfactory. Wounds gradually healed. Ordinary ration given, and horse regaining condition, but unable to open mouth more than four inches.

Dec. 15th. Discharged from sick lines. Unable to open mouth as wide as normal, and showing slight bony enlargement over tempero-maxillary joint.

31st. Re-admitted on account of poverty and weakness.

Jan. 1st to 10th, 1910. Horse continually eating, but eating very slowly. Condition improving, but possible movements of jaws decreasing and no lateral movements of lower jaw possible towards injured side.

Feb. 19th. No improvement. Horse sent to graze, and ran at grass until 20th May, when he was brought in and returned to duty. Movements of jaws much more free, and horse fat.

April 12th, 1912. Horse is now being used as an officer's charger, and nothing abnormal can be seen.

I have since twice used irrigation with Tinet. iodine solution, once successfully, in a case of purulent infection of a tendon sheath in front of the knee, and once unsuccessfully in the case of open hock joint in a mule.

In view of the above cases, I shall certainly not hesitate to resort to irrigation of joint cavities upon the first sign of suppuration. I looked upon the case of open tempero-maxillary joint as a practically hopeless case from the first, owing to the impossibility of keeping it still, and only resorted to irrigation as nothing else I could think of appeared to offer any hope of success.

J. B. COLLYER, M.R.C.V.S.

Vety. Inspector, Natal Police.

Headquarters Natal Police,

Pietermaritzburg, S. Africa.

PARTURITION CASES IN MARES—EARLY USE OF THE KNIFE.

The following may probably be of some interest, as illustrating the advantages accruing from the early use of the knife in difficult cases of foaling.

As is well known, the mare cannot stand nearly so much "pulling about" as the cow, and the longer neck and limbs of the foal, combined with the stronger pains of the mare as compared with the cow, make altering the presentation of the fœtus a much more difficult and arduous task. In some cases it is quite impossible, or only accomplished after several hours work, by which time the foal is generally dead and the mare in a state of collapse.

Now, I take it that in foaling cases the aim of every Veterinary surgeon is primarily to have a live mare and foal, failing which, a live mare; and that end is I think best attained by using the knife

when, after a reasonable trial of other means, it is found impossible to accomplish delivery.

The question arises, "How long should those other means be exploited before resorting to the knife?"

I think most surgeons accustomed to these cases know directly, almost instinctively, whether or not the knife will be required. Personally, I employ it without any hesitation if after ten or fifteen minutes work the fœtus cannot be got into proper position. Perhaps I may be condemned for being too precipitate, but in my opinion results justify the means.

The use of block and pulleys I am afraid is still practised, even by some who ought to know better. That, and the still more barbarous method of which I have heard, viz. yoking a horse to the foal, are, to my mind, gross cruelty, and neither more nor less than murder of the unfortunate mother.

Parturition is a natural process, and in using force, efforts should be directed towards assisting Nature, full advantage being taken of the straining of the mare. With men on your ropes you can regulate the amount of traction applied (or know the reason why), but a lengthened continuous application of force is most unnatural and most detrimental, and should never be employed.

I record the following cases of dystokia to try and show that after removal of a limb or limbs, parturition may become comparatively easy, and, what is more important, the mare is not subjected to any great strain.

Case I. The foal's head was doubled back on its off side, but could not be reached, the fore legs protruding from the vulva as far as the knees. Failing to get head forward, I removed the off fore limb, skinning it over the scapula and severing the muscles in the usual manner. With a hook I was then able to reach the head and pass a rope through the mouth and over the poll, and so bring it forward.

Case II. The foal lay on its back with the head downwards below the brim of the pelvis; and the fore legs protruding as in Case I. The off fore leg was removed at the shoulder, and the head brought up by means of a clasp hook through the lower jaw behind the symphysis.

Case III. This was a breech presentation, the foal lying on its near side. I was quite unable to push the foal far enough back to get at the hind limbs, which were firmly wedged at the hocks. The off leg was removed at the hip joint and the near one at the stifle. To add to the difficulties in this case, the only way we could keep the mare on her feet was by walking her slowly round the yard—not a very enviable job on a wet day.

Case IV. This was practically the same as Case I, but occurred in a 16-year-old Shire mare, and the foal's legs had been protruding for ten hours when I first saw her. It was necessary to remove both fore legs. The foal was then taken away by means of clasp hooks in the upper and lower jaws.

Case V. Here again the fore legs protruded, with the head down between them and out of reach.

As in Case IV., both legs were removed at the shoulder. By means of traction on a hook fixed in the neck I was able to reach the mouth, and the rest was easy.

Case VI. In this case the foal lay on its off side with all four legs firmly wedged in the pelvis, so that I could reach a little way above the hocks, and with difficulty touch the elbows. The head I never did feel. In order to make room I cut off both hind legs at the hock, and after a good deal of work severed both fore limbs at the shoulder. Then, while I pushed the sternum back with a repeller, assistants pulled on ropes fixed to the lower ends of the tibiae. On delivery the face of the foal was found to be almost semi-circular, due to the cramped position the head had occupied pressed against the off side.

The average time taken to effect delivery in these cases was about one-and-a-half hours.

In each case the clotted blood collected in the womb (this constitutes a great danger) was carefully removed, and the mare's genitals thoroughly disinfected. The mares themselves were treated with laxatives, febrifuges, and internal antiseptics, and fed on mash, and green food where available. The shoes were removed, owing to the risk of laminitis.

Recovery in every case was uninterrupted and uneventful, except Case I. which had a mild attack of laminitis. However she soon recovered, and is due to foal again early in May.

I by no means advocate haphazard employment of the knife, but the death of a mare at foaling (from whatever cause) does not tend to enhance the Veterinary surgeon's reputation, and I do think that a good many mares die annually which might be saved by its timely and judicious use.

ALEC MCTURK, M.R.C.V.S.

Swaffham, Norfolk.

THE ANCIENT AND MODERN TREATMENT OF CANKER.

It is for mediocrity to talk, but genius to observe. Genius has been defined as the capacity for taking infinite care and pains. How very wise we now all appear since Mr. Pillers has called our attention to the success he has obtained by his method of treatment of canker? Even though the principles and practice of the method may be old, none the less Mr. Pillers is just as entitled to credit as if it were unknown to his contemporaries.

Vaccination was used for time immemorial before Jenner's day, but Jenner still retains the credit due to him for popularising and defining preventive inoculation. Perchloride of mercury was used in the treatment of wounds from obscure times, yet as its proper use was not defined before Koch's time, Koch still deserves the credit rightly accorded him. Mr. Pillers has shown us what perseverance and thoroughness may accomplish in a particular line of treatment.

Solleysel (*Parfait Mareschal, 1733*) recommended the actual cautery in the treatment of canker; he

condemned *violent* caustics as "harmful and tending to make the complaint worse." Prévost, of Geneva, confirmed the efficacy of this method (*Recueil Vétérinaire, 1828*). Since that date numerous practitioners have advised it. More recently Malcolm, of Birmingham, has brought it forward again.

Every British authority, even including Percival, has overlooked the teachings of Richard Hayward Budd, veterinary surgeon, of 72 Curtain Road, E.C., who wrote a little book, which was published on Feb. 14th, 1816, entitled:—

"A Practical Treatise on the diseases of the foot of the horse containing a correct description of their nature, causes, and methods of prevention: with suggestions of improved plans of treatment, founded on physiological principles, etc., etc."

He tells us "Those authors who have hitherto noticed this affection seem to have had some idea that pressure was useful in the application to the part; and having ourselves observed the same circumstances, we were led to consider its mode of action more particularly. It appeared to us that the vessels of the part, debilitated and relaxed as they generally are, might have derived benefit from the support which pressure gave to their sides; with this idea, we determined to give it a fair trial, and we have not been disappointed in our expectations."

"As affording means of the application of pressure, as we have before observed, a bar shoe is necessary; and if the sensitive parts have assumed a fungous appearance, the application of a small quantity of the sulphate of zinc powdered will be of service. After the shoe has been applied, therefore, we proceed to lay pledgets of tow of an equal thickness, one upon another, on the diseased part, till we have brought it up to a level with the shoe, or something above it; a thin plate of iron, of about an inch and a half in breadth, is then to be introduced transversely under the shoe, which can generally be done with ease; another of the same kind of a proportionately greater length is to be introduced in the opposite direction upon it, the pressure will be thus nearly equally applied; but if the disease extends only over part of the sole, and a greater degree of pressure is necessary to that part, the pledgets of tow may be proportionately of greater thickness."

Speaking of Thrush he says:

"Pressure, by the support it gives to the vessels secreting the horn, greatly favours the production of that horn; and pressure, applied to the seat of this disease, gives the assistance to nature which she requires; that assistance, which we have no hesitation in saying, will be always adequate to its cure."

Evidently this was not rare practice in the East of London in the early part of the 19th century. This author looked upon caustics and astringents with general disfavour, but would not say "that such applications are never necessary."

Whether Budd got his idea from his preceptor, Bracy Clark, who practised in Giltspur Street, West Smithfield, is not known. It is quite possible Clark instilled the idea into his pupil's mind.

Six years later (1822) this masterly and scholarly veterinary surgeon and distinguished naturalist published his *Essay on Canker*, which has not been mentioned so far by the writer of this critique is aware, by any British author.

Bracy Clark condemned powerful irritants, but lauded the plentiful use of tar combined with firm, regular and uniform compression. He had a better conception of the pathology of canker than the majority of the present day practitioners when he said this disease was not specific like human cancer as some thought. It was, according to him, a simple ulceration of the sub-corneal tissue, accompanied by a more or less weakness of those parts connected with the formation of horn, and generally by irritation of the cells in the vicinity of the ulcer. It did not need specific agents but *much care and attention* to destroy the causes of irritation and to favour the natural formation of horn on the tissues which were deprived of it. Youatt condemned powerful caustics, but advocated pressure. Chas. Steel, in *Blaine's Outlines of the Veterinary Art* (1865) was very strong on this point.

A similar method of procedure as outlined by Budd in 1816 and by Bracy Clark in 1822, was in vogue at least 30 years ago in some of the East End of London veterinary establishments, and was no doubt handed down from one generation of practitioners and farriers to another as mere tradition. As a rule those who have had a long experience in this direction are very reticent on a practice with which they are too familiar. Still, it was the traditional teaching, at least by Sir George Brown at the Royal Veterinary College, quite 30 years ago, Brown having been a pupil of Prof. William Sewell, who was a contemporary of Clark and Budd. Iodoform and carbolic acid were in use in the treatment of canker at least 30 years ago, even at the Royal Veterinary College.

Prof. Woodruff is somewhat inclined to believe in Jowett's theory as to a spirochaete being the cause of canker. This theory has been disproved. He brings forward the action of mercury in syphilis in man as tending to support—by the action of grey powder in canker—the similarity of cause between the two spirochaetes. It is quite true that at least two spirochaetes are found in the healthy genital organs of man; but they are not the cause of syphilis, which is due to a treponeme—*Treponema pallidum*—an organism closely resembling the spirochaete. Syphilis in man is a generalised disease; canker in the horse is a local disease, confined to the external surface of the body. Syphilis requires systemic treatment, canker simple local treatment—pressure and antiseptics.

Spirochaetes may exist in healthy animals, as they do in unhealthy secretions; in transudations and exudations; in putrid water or dead organic matter. They have been found in the normal as well as in the diseased horse, ox, sheep, pig, goat, dog, cat, fowl, etc. Their mere presence is not by any means to be taken as an indication that they are the cause of disease.

Canker by its response to simple external treatment, carefully and thoroughly, in other words, skilfully applied indicates that it is a simple or local

malady confined to the surface of the body. In reality, the lesion is merely granulation tissue, like that of the exuberant granulations so frequently found following injuries or wounds, especially on the anterior surface of the metacarpus, metatarsus, hock, etc., where the skin almost comes in immediate contact with the dense hard, bony or tendinous structures of those regions.

The exuberant granulation tissue in these latter parts may be destroyed by the use of powdered sulphate of copper and pressure. When neglected, or improperly treated, whereby the granulation become voluminous, it may be necessary to burn it down with the cautery or slough it off *en masse* with powdered arsenic. *But care must be used with this latter agent.*

Some writers speak well of cement, others of plaster of Paris, but nearly all the more recent authorities advise caustics or escharotics. But if simple, *but methodically applied*, remedies will answer in the successful treatment of canker, why go in for heroic, and often irrational and cruel methods? If the true horn-forming tissues are destroyed, what is the utility of treating a case with violent agents?

In olden times surgeons and physicians and even veterinary surgeons were naturalists, physiologists and pathologists combined. Bracy Clark was a man of this type, and far in advance of his times; he was a contemporary of Blaine, Moorcroft, Youatt, Turner, and many other superior practitioners, who laid the foundation of clinical surgery in this country and were admired by the veterinary profession in other countries. We may at the present time be more learned, but are we better observers than our forefathers?—of course, taking into consideration opportunity. They had no bacteriology in those days, but they could in the majority of instances observe, diagnose and treat just as well as we can at the present day. Certainly in pedal surgery and therapeutics we have not advanced one bit the last hundred years; any more than we have the last seventy-five years in laryngeal surgery and physiology.

The moral of these facts presented is: Don't ignore the old just for the sake of being in the fashion. Modern science proves that many of the old ideas were correctly founded by pure clinical observation.

SCRUTATOR.

COLIC DUE TO IMPACTION OF THE CÆCUM IN THE HORSE.*

By Prof. A. GOTFON, Edinburgh.

In current literature, impaction of the cæcum is scarcely mentioned amongst the many abnormal conditions which give rise to symptoms of colic in the horse. The only references which I can find in the literature at my disposal are so brief and scanty that they throw no light upon it, or on the means by which it may be differentiated from the many other conditions which cause similar symptoms of abdominal pain in the horse.

* Submitted at the meeting of the Scottish Metropolitan Veterinary Association on May 4th.

Friedberger and Fröhner dismiss the subject in the following words—"fecal stasis in the caecum (unless removed) appears regularly to produce rupture of the affected bowel," an opinion which I have reason to believe very closely approximates the truth. They do not point out or attempt to differentiate in any way between the symptoms produced by impaction of the caecum and those due to impaction of the intestine in other positions along with which it is discussed. Similarly, Reeks ("Common Colics of the Horse") says "The present chapter is given over to the description of all obstructions of a subacute type that occur in any position in the large or double colon, with which, until differential means of diagnosis present themselves, I include typhilitic or caecal impaction." Law ("Veterinary Medicine") includes the condition in a general discussion on intestinal obstruction with alimentary matters.

There can be little doubt that the comparative rarity of impaction of the caecum in the horse accounts for the very brief references which have been made to it. Experience of four cases has led the writer to think that certain symptoms are associated with the condition which are more or less peculiar to it, and which permit of its almost confident differentiation from other intestinal disorders of the horse to which, in many of its features, it bears a close resemblance. Three of these cases occurred within a few months of one another, the fourth after interval of a couple of years, but the last case only came under my personal observation in its early stages. It was placed under the care and supervision of my colleague, Prof. Buxton, to whom, before leaving town for a short holiday, I expressed my opinion as to the character of the case. Prof. Buxton reported to me on my return that the course of the illness had been the same as that of the cases which I am about to describe, and that on post-mortem examination exactly similar appearances had been presented. It is a curious coincidence that all these cases occurred amongst the horses of one firm.

Briefly their history is as follows: During the twenty-four hours immediately preceding the appearance of the symptoms of colic the animals had a mild attack of diarrhoea at work, from which spontaneous recovery had taken place, and after which there had been normal action of the bowels. The colicky symptoms manifested were of a mild, subacute type, and bore a close resemblance to those seen in impaction of the colon. The animals showed a marked desire to lie, and when down would lie for an hour or more quite quietly. They showed little disposition to wander round a loose box when on their feet, but would stand still for the most part, and only occasionally move uneasily around or scrape with a fore foot. Continuous dull pain was manifested in this way day after day, the only change observed being in the later stages, when the animals lay almost continuously and could scarcely be forced on to their feet. A striking feature was the small amount of general disturbance apart from depression. The shortest case had a duration of eight days, whilst the first, which was the longest, lasted fourteen days before death. This last animal, a mare, examined twelve hours before death had a fairly strong, good pulse numbering forty-eight to the minute, a normal temperature, respirations normal both in respect of frequency and character, whilst the mucous membranes showed no appreciable change. Her condition was typical of all the cases throughout their course until within a few hours of death.

No faeces were passed during the first two or three days, and on examination the rectum was found empty. The bowels, however, responded tardily, but to all appearances satisfactorily, to a dose consisting of linseed oil followed by aloes. After the purgation had ceased the bowels continued to act, though infrequently, and

faeces were passed in small amount only, a fact which called for little comment in view of the almost complete inappetence. Notwithstanding the apparently satisfactory action of the purge and subsequent action of the bowels, the dull, uneasy pain, constant lying, and inappetence continued, and for this it was at first difficult to find a satisfactory explanation. On a first rectal exploration the bowels so far as could be felt were normal, and afforded no explanation of the symptoms.

On a further and more thorough examination the upper portion of the caecum was felt and easily recognised in the lumbar region, near the centre of the abdomen, lying mainly on the right side but projecting a little over the middle line. The organ was unusually prominent, its walls did not yield to the hand as they do under normal conditions, and its contents were firm, and clearly not of the natural peaseoup-like consistence. The full significance of this state of affairs was not grasped at first, but it soon became clear that a distended caecum, impacted with dry ingesta, accounted for the course and symptoms of the case, and that the purgative though producing purgation had failed to influence the condition of the caecum.

Belladonna, camphor and carminatives did little to relieve the continued symptoms of pain. The administration of oil in combination with stimulants produced a soft condition of the faeces and their more regular passage, but effected no change in the caecum. Food was offered, after the first purge acted, in the shape of linseed tea, boiled linseed, bran and long hay, but was partaken of most sparingly, and later not at all. The more rapidly acting purges in the form of eserine and arecoline were not tried in the first case, but their exhibition in the second and third was not productive of any response, nor did they have any effect, so far as could be ascertained by rectal exploration and later by p.m., on the consistence or amount of food material in the impacted organ.

The cases after dragging along without showing any material change from day to day, suddenly developed the symptoms which are well known in association with rupture of the intestine. The running down pulse, drawn anxious expression, short gaspy respirations, sweating and muscular tremors were all present, and death relieved the animals in a very few hours after their development.

In the third case a method of treatment was tried which, because of its novelty, is perhaps of sufficient interest to be worth mentioning. The orthodox methods of treating impaction had been tried and had failed; the experience of the two preceding cases pointed to the probability of an early fatal termination, and it seemed worth while applying any method of treatment which offered a possibility, however remote, of effecting improvement. It occurred to me that some benefit might be derived, if advantage could be taken of the well-known physiological fact that the water which a horse drinks passes direct to the caecum. If the animal could be induced to drink large quantities of water there was a possibility, small perhaps, but still a possibility, that the liquids by permeating the mass of material impacted in the caecum might assist in softening and loosening it and thus aid in its removal. With this object in view a large dose of common salt was given in water. It had the desired effect so far as thirst was concerned, but its influence on the condition of the caecum, so far as could be judged by rectal examination and subsequently confirmed by post mortem, was not appreciable.

In making the post-mortem examinations the most striking feature on opening the abdomen was the great prominence of the caecum. Its contents consisted of normal ingesta packed within the organ and containing very little moisture, in striking contrast to the peaseoup-like normal condition of its contents. The organ in

each case was ruptured, and some of the escaped contents diffused over the peritoneum. The colon was remarkably empty, an effect due to the combined action of the purge, the subsequent passage of feces and the small amount of food consumed.

Several features of this condition are worth noticing. The remarkably small disturbance of pulse in relation to the duration of the case. The failure of the orthodox methods of dealing with impaction to influence the condition of the caecum although purgation was induced and was followed by the passage of normal feces. The action of the bowels and the almost complete absence of general disturbance are misleading and very liable to result in an underestimation of the continued and increasing gravity of the condition under consideration.

It would not be justifiable to assume that every case of impaction of the caecum must end fatally, but it is quite clear that when this organ is impacted with food material, its walls can only with difficulty be sufficiently stimulated to effect the onward movement of its contents, and that the risk of rupture increases in direct relation to the duration of the condition. A rectal examination permits of diagnosis without great difficulty, but the continuance of the dull uneasy condition and the inappetence after the action of the purge is not without a significance which should lead to the examination of the condition of the caecum, if this has not already been done.

It is not suggested that the condition described is new, but my own experience and that of those with whom I have discussed these cases justifies the conclusion that it is of infrequent occurrence in the horse. Since it receives such scanty reference in veterinary literature, I record my experience in the hope that it may help a little the recognition of and differentiation between the various abnormal conditions which are responsible for subacute colic in the horse.

ABSTRACTS FROM FOREIGN JOURNALS.

NOTES ON LIVESTOCK INSURANCE IN GERMANY.

Ex. Bulletin of International Institute of Agriculture, Rome.

Livestock Insurance originated in private enterprise assisted by Government, and has now assumed a place of great importance in the economy of the Empire, and is administered as an Imperial affair.

There are three forms of association: Local, District and State, all worked on similar lines, the aim being to limit cost of administration as far as possible, so as to devote the funds to compensation, which varies in amount in the local associations with the state of agriculture for the time being. The best use possible is made of all available parts of the carcass, which is assessed when compensating, the end aimed at being to enable the owner to replace the lost animal with another of similar value. Of course there are drawbacks to this action, and from an insurance company's view it is detrimental to profits.

Statistics show that the local associations work more satisfactorily than those covering larger areas, owing to better knowledge of local conditions on the part of the administrators. As a rule they pay 15 per cent. higher compensation, or practically 10s. a head more, their mortality rate is as 2.38 per cent. —2.51 per cent. The Government subsidy is allotted *pro rata*.

In Alsace-Lorraine insurance was started in 1889 with a capital of £1,500, to deal especially with horned stock. The association became very active in improving the hygiene of cattle and promoting local branches. Government subsidy was either fixed or temporary according to local needs. In 3 years 70 branches had been formed, covering 20,415 head of stock valued at £321,113.

In Bavaria, in 1896, the State founded a mutual stock insurance scheme, incorporating existing local associations; these latter paid half the indemnity, the State the other half, the value was 7s. 10d. in case of dead animals and 8s. 10d. on compulsory slaughter, on condition that the carcass produced 1-15th of its value. The State subsidy commenced with £25,000. Sale of products reduced calls by 34.49 per cent. All classes of stock are accepted, horses between 8 months and 15 years, with a maximum of £50.

In the Grand Duchy of Baden cattle insurance is regulated by laws passed in 1890 and 1898, by which the local associations are treated as subject to State control, and the working is similar to the Bavarian, but insurance is compulsory on at least 2/3rds of the stock owners of a district. Half the indemnity comes from the local funds, the other from the associated funds, but in case of an epizootic the State comes to the aid of the local association, for which purpose there is a special reserve of £10,000.

In Württemberg the central agricultural Bureau controls the numerous local associations, the State subsidy being used for initial expenses and as a reserve fund. In 1908 it stood at £2,500.

In Saxony there is no general livestock insurance, but in 1898 such was imposed on beasts for slaughter, and in the following year it was extended to equine stock.

LIVE STOCK INSURANCE IN SWITZERLAND. Ex. Ia Clinica Veterinaria.

In Switzerland livestock insurance is carried on by three large mutual associations, two of which confine themselves to equine stock, while the third, "The Federal Guarantee," also covers cattle. These associations take all risk to which stock are exposed, as well as death from disease, accident, castration, slaughter by order of the authorities, also diminution in value from accident not involving death. The three societies, although of different nationality, work together but by slightly varying methods.

The Swiss and German adopt the system of fixed indemnity and sliding premium, they guarantee the owner full amount insured as long as funds permit, and *pro rata* after due notice in case of deficiency.

The French society adopts the system of fixed premium and sliding indemnity with the reserved right of reducing payments during epizootics, etc.

In 1909 £22,332 were paid as premiums. Insurance is compulsory and the State grants a subsidy in times of stress. In this year 17 Cantons availed themselves of this aid, to meet a loss of £100,000. The Cantons subscribed £32,000 and the Federal Government a similar sum. Insurance against

death has had excellent result in the betterment of hygienic conditions of stock, and is rapidly advancing, and in some instances can be worked on as low a premium as 1 per cent.

LIVE STOCK INSURANCE, AGRICULTURAL CONFERENCE, MILAN. Ex. La Clinica Veterinaria.

The Congress appreciates the effectiveness of local mutual insurance associations, but asks Government for help in times of epizootics. Also asks for Government Veterinary help in stamping out contagious diseases. Appreciates the efforts of insurance societies in improving hygienic conditions. Considers insurance of beasts for slaughter should be compulsory.

EXTRACT FROM REPORT OF V. S. N. FOSS, Municipal Abattoirs, Ufa, Russia. From the author's original Esperanto.

The insurance is voluntary and the Government subsidises £1 for £1. The premiums are 5d. for large stock and 2½d. for small stock per head.

The result of the year's workings are, as may be imagined, a great increase in the confiscations. Formerly the butchers tried to hide cases, while now they produce everything they find.

Tuberculosis has been found in 75 head of cattle and 1 pig; 9 carcasses were entirely condemned, 5 halves and 2 heads, 62 chest viscera.

Cysticerci were found in 32 head of cattle and 14 pigs. Destroyed, 3 cattle and one half; 10 pigs. Four pigs were stamped "measly" when the parasites were few, only 1, 2, or 3. Four cattle were also condemned for peritonitis. Other diseases in which only viscera were condemned need not be specified, as no payment was made in such cases. Income was £116 13s. 6d. and outgoings (as compensation) £98 16s. 9d., leaving a balance in hand of £17 16s. 9d. If the time before May had been counted when only half compensation was paid the account would stand: Income, £136 4s.; Outgoings, £104 4s.; Balance, £32.

EXTRACT FROM A LETTER FROM GOVT. V.S. S. ORLOVSKY, ODESSA. Author's original Esperanto.

In reply to your inquiry re Live Stock Insurance in Russia, I am very sorry to say it is very unsatisfactory. Many local associations have started but have closed on account of loss. It has been found very difficult to investigate the cause of death, and owners have taken unfair advantage of this. Some private societies cover animals for fire only, not against death or deterioration.

Lately a new private society has been started in Russia for Live Stock Insurance with great aims, but it will probably fail because it has no mortality tables (there being no reliable ones obtainable) and because salaries and swindling claims will swallow more than the income.

Comparing the conditions of Life Insurance, about which there is a large amount of literature, one is bound to come to the conclusion that to be successful it must be mutual, under honorary control; this being the system in Germany, where Livestock Insurance is carried on successfully.

W. R. C.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

An ordinary general meeting was held at the Laboratory of the Board of Agriculture, Alperton, on Tuesday, April 16th, by the kind invitation of the President, Stewart Stockman, Esq., who occupied the chair. There were also present: Messrs. R. C. Tennant, S. Slocock, P. J. Simpson, J. Willett, R. Page Bull, J. Coleman, W. Pauer, T. B. Goodall, Sidney Villar, A. L. Butters, and G. P. Male, Hon. Sec.

Visitors: Messrs. Brennan de Vine, Charles Roberts, and W. G. Wragg.

The minutes of the previous meeting were taken as read and confirmed.

The Hon. Sec. reported two members in arrear with their subscriptions, to both of whom he had written, and had received a reply from one, who said he had intended to resign in 1906.

It was agreed to allow the matter to stand over for the present.

Apologies regretting inability to be present were announced from Prof. McCall: Messrs. J. B. Baxter, F. W. Hanks, Sydney Pennington, L. Barnard, C. S. Harris, H. F. Standley, J. H. Parker, W. Wilson, H. C. Jagger, James East, John Varney, D. Wyllie, J. Hatch, E. J. Mellett, J. S. Hurndall, and G. E. King.

Mr. NORMAN CLIFFORD, M.R.C.V.S., Newbury, was unanimously elected a member.

Capt. O'RORKE was nominated for election at the next meeting, on the proposition of Major Harris, seconded by Mr. Male.

Congresses. The PRESIDENT reported that the Royal Sanitary Institute was to meet at York on August 3rd, and a Congress of the Royal Institute of Public Health was to be held in Berlin from July 24th to the 28th.

The Hon. Sec. reported that he had been in communication with Messrs. Thomas Cook and Son, and had found that it was possible to attend the meeting in Berlin from the Tuesday night until the following Monday morning at an inclusive expenditure of £8 10s.

Mr. WILLETT proposed that Mr. Percy Simpson should represent the Association at York.

Mr. SLOCOCK seconded the motion.

Mr. SIMPSON said he might be going to York, and under those circumstances there need not be any expense to the Association.

The PRESIDENT thought that if Mr. Simpson attended on behalf of the Association the expenses should be paid.—The motion was carried.

The Hon. Sec. said that in view of the International Congress a question had been raised as to whether a delegate could be sent to Berlin.

The PRESIDENT did not think it was worth the money.

Mr. SYDNEY VILLAR said he expected to go to Berlin and should be glad to represent the Association.

It was agreed that if Mr. Villar went to Berlin he should act as delegate of the Association.

Next Meeting. The Hon. Sec. read the following letter from Mr. C. E. King:—

"At present it is my intention to attend the R.C.V.A. meeting on the 16th, but as I am pretty busy it will depend upon train arrangements and whether I am too full up to get away. If I should not be able to turn up will you be kind enough to make my excuses and at the same time renew my invitation to the Association to hold its Summer Meeting at Abingdon. I shall be very pleased if the members will accept my hospitality, and I will do what I can to make the meeting, if it is decided to come, a pleasant and enjoyable one. Oxford is a very good centre, and perhaps it can be arranged to make the journey from there to Abingdon, which is a very beauti-

ful one, by river. I believe the boats take about an hour to do the journey, so I should think members would arrive here in good time for luncheon. With kind regards and best wishes for a good meeting, believe me, faithfully yours, Geo. Edwd. King."

On motion from the Chair, it was agreed that the meeting should be held at Abingdon, and on the motion of the HON. SECRETARY, duly seconded, a hearty vote of thanks was accorded to Mr. King for his kind invitation.

A FEW NOTES ON TWISTS OF THE INTESTINES.

By Mr. J. WILLETT.

[This appeared in our issue of May 4, p. 691.]

The PRESIDENT thanked Mr. Willett for his interesting communication, and said it was beyond him, as he pretended to no knowledge in that direction. As was well known, when a man dropped out of practice he missed seeing many interesting things and had to leave the discussion on some subjects to other people.

Mr. SLOCOCK said the subject was a very important one to practitioners and Mr. Willett had brought forward some new ideas. For his own part he had never pretended to be able to distinguish between a twist of the large and small intestine so accurately as Mr. Willett seemed to believe could be done. Having regard to the original work in the paper, and the importance of the matter, he thought it would be well to adjourn the discussion in order that the paper might be before the members prior to the debate. It would be a very poor compliment to Mr. Willett if the discussion was not a good one.

Mr. VILLAR said it was rather a question of time, as Mr. Stockman was prepared to give a demonstration and that might have to be cut short if the discussion was taken on Mr. Willett's paper at once.

Mr. WILLETT said he had no objection to the discussion being deferred.

On the proposition of Mr. Slocock, seconded by Mr. Villar, the discussion was adjourned to the meeting to be held in London in the Autumn.

Mr. PERCY SIMPSON proposed that the paper be printed and circulated in order that members might come better able to discuss it.

Mr. SLOCOCK seconded the motion, which was carried.

SPECIMENS.

Mr. PERCY SIMPSON exhibited the fractured pelvis of a horse, the most interesting part of the case being its history. He was telephoned for on a Sunday afternoon to see the horse after it had been bought on the Friday at the Repository in London and driven as far as Maidenhead, and had there fallen lame. He was asked to write a certificate saying it did not answer to its warranty as to being in a fit state to work. To his surprise he found nothing below the stifle, but on rocking the horse detected crepitus, and a rectal examination showed fracture of the pelvis. The history had to be taken with a grain of salt, because the man desired to get rid of his lame horse, but he stated that he bought the horse and an old 'bus, and the idea struck him to buy an old 'bus horse and run the two horses down to his place at Swindon by road. He put the horse in at the Lane and went as far as Hounslow. The horse was a little fidgety at first and went a bit nappy, and he wired to say that the horse was not quiet in harness and he should return him. He then drove him from Hounslow to Maidenhead, a distance of 17 miles, and on going up the hill from Maidenhead he noticed the horse had become distinctly lame, and four miles further on it was so lame as to be unable to proceed. The horse was destroyed and the pelvis was found to be very badly fractured. He himself believed that the horse was nappy, and had the 'bus pulled on to him by the other horse, the 'bus hitting him on the rump and causing

fracture. It was extraordinary that the animal should travel a distance of 17 miles on the road before giving in.

A second specimen was a fracture of one of the five bones of the carpus, from a pony which slipped when going out of the stable. He thought it was rather unusual to get such an extensive fracture.

Replying to the President, Mr. Simpson said the fracture occurred from the stumble. The pony came out of the stable, slipped and went down on one knee, and the hair was not even taken off the skin. The history of the case was out of all proportion to the extent of the damage.

The pony was 12 years of age and the horse five years old, and the latter was kept nearly a week before it was shot, owing to the possibility of legal proceedings. The horse was about 15.2 hands, something like a light hunter, and he believed it started sound from London. There was no trouble with the diagnosis. In fact he had no difficulty in diagnosing either case.

The HON. SECRETARY (Mr. G. P. Male) recalled a case within his own experience. When having lunch one day he saw a pony going past the window appearing a little stiff behind, and went out and found the man was asking for the pony to be shod. On his pointing out that it was lame the man replied that it always went a bit stiff. On examining the pony per rectum he found the symphysis to be fractured.

At another time he was called in a great hurry to see a horse and told the owner there was a fracture. Some days afterwards he went to the same place and asked if the mare had been destroyed and was told she had not and was a lot better. The owner said he had had somebody else to see her, and had been told there was no fracture at all and that she would get all right. He made an examination per rectum and found a fracture of the pelvis, which was in about five pieces. He thought that showed there need not be so much lameness even with so serious a fracture.

On the motion of the PRESIDENT, a vote of thanks was accorded to Mr. Simpson for his interesting specimens.

THE INTERNATIONAL CONGRESS, 1914.

The PRESIDENT, who is also the Honorary Secretary of the International Veterinary Congress to be held in London in 1914, raised the question of subscriptions towards expenses of this gathering, which he said would be very considerable. He stated that at a meeting of the Committee at 10 Red Lion Square, it was decided to ask the Veterinary Associations throughout the country to co-operate in the collection of subscriptions. He thought it would be a good arrangement if each Society would start to collect subscriptions from its members and send forward the list with amounts as subscribed by the members of each particular Society, and as he understood that many gentlemen preferred to split the subscription up over a period of three years, it would be as well to state the gross amount, indicating in each case how the generous donor proposed to subscribe it.

Mr. VILLAR said that there were many members like himself who belonged to more than one Association who would like to subscribe on more than one list.

The PRESIDENT replied that he was in a similar position, but the matter could easily be arranged according to the wishes of the subscriber, and the gross amount of a man's subscription would appear on a general list apart from those of the Societies.

The President started the Association's list by offering to subscribe £20 as a member of the Royal Counties. Nine others also promised various sums of from three to ten guineas, some of these sums being partial subscriptions.

On the proposition of Mr. Willett, seconded by Mr.

Simpson, it was agreed that the Secretary should circulate the members of the Association with regard to the matter, and that a complete list of subscribers should be obtained and forwarded to the Honorary Treasurer.

It was announced that the first list of subscribers from this Society consisted of nine members, who together had promised £80.

After tea, which was kindly provided by the President, the members adjourned to the Laboratory where the President exhibited a large number of specimens.

Mr. STOCKMAN, going round the specimens, said: The first shows the lesions—ulceration and congestion—that you see in the stomach and intestines in so-called bracken poisoning. I am working to find out what this disease really is, but I cannot say with very much success so far. This specimen is from an ox, and I think about fourteen of its companions died. The specimen I show you is the fourth stomach. The lesions are always the same. Personally I do not think the condition due to bracken poisoning. I have come to the conclusion that it may be a poison, but a poison of the type of ricin, that is to say, it is a proteid vegetable poison which causes general lesions as well as local ones and gives rise to a high temperature. There is no common poison which produces a rise in temperature up to 108, and constantly in this disease the temperature goes up to that point. We gathered several forage plants from the pastures, and one lot that came to the laboratory produced one experimental case of the disease, but it was not very marked; in fact the animal got better. When it appeared that the animal would recover I thought we had better kill it and have post-mortem examination, and we found typical lesions of so-called bracken poisoning in the rectum. It had been fed on a weed called tormentil. We obtained some more of this weed, but never produced another case. My idea now is that mixed up with that weed was the plant that we were looking for, that is the actual poison. There is an incubative period varying up to three or four days. If you take the animals off the pasture, cases of the disease do not cease to appear for about four days. After the incubation period animals begin to be very dull, diarrhoea comes on, and there is passing of blood and straining. They get quite wild, and finally become comatose before death. The illness lasts about 40 to 70 hours after it is first noticed. It is usually an acute disease that goes on very quickly. It is a seasonal disease. I used the bracken from a field in which the disease was notified, and at the time it was notified, to feed animals at the laboratory, but never produced it with bracken. The season is about September to November. A curious thing about it is that some cases are reported to occur in byres, and in nearly every case there is a bracken connection, sometimes there has been littering with bracken. I think it is confined to particular localities, several of which I know.

Replying to a statement by a member that he used a large quantity of bracken and had never had a case, Mr. Stockman said he knew that, and if the disease is bracken poisoning, it is by bracken under some condition which requires to be studied, but he did not think it was due to bracken. If it is, and I experiment with a cwt. of the stuff from the actual place where the disease has broken out, as I have done, and at the time the disease is occurring in the field, I ought to obtain poisoning. We all know that certain plants are poisonous only at certain times of the year. It may be the ricin type of poisoning, like the castor oil seed (if you want to poison a man give him a castor oil seed). You can immunise against this

poison. I believe in Russia it was a common method of poisoning. The lesions caused by ricin are general inflammation of the mucous membrane of the intestines, and ulcers and hæmorrhages practically throughout the whole intestine. There are also subcutaneous hæmorrhages and higher temperature.

The next specimen was a typical case of John's disease showing the crinkling of the bowel, together with a part of the large intestine which did not show the same crinkling although it was from the same beast. It showed the curious waxy appearance of the bowel. It was pointed out that affected animals might show no more than a mucous enteritis, the bowel being covered with a creamy sort of mucus, and that you may get that when you cannot find the bacilli. Infected intestines had been sent to the laboratory a year ago, and portions were fed to two cattle. As the price of feeding stuffs was very high, these two cattle were killed a few weeks ago as the experiment was thought to have failed, for no symptoms were evident. Both were found affected on post mortem examination eleven months after feeding. He had tried the avian tuberculin test in practice, but had stopped using it because people had sent up for tuberculin and tested all their animals, and when he wrote for the results he found they had sold the reactors, and had no post mortem evidence to furnish regarding the value of the test.

Replying to a member: What a negative test is worth? he did not know, but if the temperature rose from 102 to 104 stayed up he thought it was a reaction (tuberculosis excluded). There was not enough experience of the test yet to assess its value. It took us years to work out the value of tuberculin in tuberculosis, and we were now in the position to work out this test.

The next specimens shown were specimens of foot and mouth disease lesions in the pig, exactly resembling what you get in cattle except that the hoof separates at an earlier date. Lesions on a pig's tongue were also shown and explained.

Lesions of foot and mouth disease in the sheep were also shown.

Lesions of the disease on the teats of cattle were shown, and in one case they were co-existent with lesions of cowpox. The cattle in life had suffered from two diseases, cowpox, and foot and mouth disease.

(The members then examined a series of microscopic slides).

Mr. Stockman also demonstrated a rapid method of diagnosing mange in horses or scab in sheep. He said: This method is not necessary where there are plenty of parasites, but when you have few acari and a lot of scrapings, and have to wash them free of grease you have to use a good deal of fluid, and it is laborious to search the fluid drop by drop under the microscope.

The method consisted in washing the material with a large amount of alkaline fluid, precipitating the solids, including the acari, rapidly in a centrifuge, and then examining with the microscope the comparatively small amount of precipitate for acari. To prevent examining the same place on the slide twice, slides ruled into squares the size of a low power field are made use of.

A sheep was exhibited on which the parasites could be seen with the naked eye.

Mr. Stockman also explained and demonstrated the way in which abortion vaccine as sent out from the laboratory is used in practice. The bacilli are grown in a medicine bottle and the bottle is sent out to the veterinary surgeon who adds sterile liquid himself.

He also exhibited an apparatus he had designed for sucking the fluid from the bottles directly into the hypodermic syringe without contamination.

CENTRAL VETERINARY ASSOCIATION (IRELAND).

A meeting was held at the Gresham Hotel, Dublin, on Wednesday, April 17th. Present: Messrs. John Holland, Athy, in the chair; J. F. Healy, ex-President and Treasurer, Middleton; J. W. Nolans, Birr; S. W. Percy, Athlone; P. J. Howard, Ennis; J. Dawson, Enniskillen; with Mr. W. W. Kilroy, visitor.

The minutes of last meeting were read and confirmed.

Apologies were received from Messrs. A. J. Moffett, C. Tracy, and B. P. J. Mahony.

It was decided to send a subscription of £5 5s. to the International Veterinary Congress Fund, and also a donation of £2 2s. to the Veterinary Benevolent Fund.

A Committee was formed consisting of Messrs. Holland, Winter, and Healy, to decide what instruments, if any, should be bought by the Association, and what arrangements should be made for their safe keeping and despatch to members requiring them.

It was arranged, if possible, to hold a practical demonstration at the next meeting, in Cork, on the 9th July, Mr. Winter promising to operate by the new method on a couple of rigs, if they could be procured for the occasion.

The TREASURER produced his accounts, showing a balance to credit of over £30, which was considered satisfactory.

NOTES ON CLINICAL CASES, by E. C. WINTER, F.R.C.V.S. (Read at the last meeting, March 1st).—Adjourned Discussion.

STRICTURE OF ŒSOPHAGUS.

Case I. Subject a hunter gelding, five years old, in owner's possession about three months, taken up from grass about a week before. Horse showed symptoms of choking in the morning, slavered at the mouth, and seemed greatly distressed. I saw him six hours after when he was easier, but still would not feed nor drink. Gave a little linseed oil with trouble and passed a probang, no obstruction in the Œsophagus, but great distress shown in passing instrument. Tried massage of muscles of neck which were rigid, relief in about half an hour. Horse sold a month afterwards, and lost sight of, until he turned up similarly affected in the possession of a cavalry officer. Tried massage of the muscles along the course of the Œsophagus and morphia hypodermically into the muscles, with good results. Horse had a slight recurrence of the affection a month afterwards, and for the last month is apparently all right. Query—What is the trouble? No swelling of the Œsophageal tube is apparent.

Case II. A pony hunter gelding, turned out to grass all right: on taking him up to get fit he showed great distress on being galloped and would not feed afterwards. Examination showed rupture of the Œsophagus and dilatation in its lower third almost in the chest, prognosis unfavourable. Operation volunteered, but not recommended. Query—What can be done in these cases, owing to the risk of stricture after the operation?

Mr. S. W. PERCY commented on the danger of administering linseed oil in such cases, and in fact on the inadvisability of using linseed oil at all in veterinary practice, as, in his opinion, it is a most dangerous drug, particularly if not absolutely fresh. He also suggested intra-Œsophageal injection of cocaine and morphia in such cases.

Mr. HOWARD mentioned, after conversation with Mr. Winter, that he had seen this case before it came under

Mr. Winter's observation, and he agreed practically with Mr. Winter's treatment, stating he had great faith in massage of the muscles of the neck in such cases.

Mr. HOLLAND believed that the affection was mainly a nervous one, and should be treated with nerve sedatives.

Several members mentioned incidentally cases of choking in cattle where nerve sedatives injected into the Œsophagus had a good effect.

Mr. WINTER, in replying, pointed out that this was not an ordinary case of choking. He did not see what harm a little linseed oil could possibly do, whether the case was choking or not. At the same time he agreed with Mr. Percy that rancid linseed oil was a very dangerous drug, but he would not on that account condemn the oil altogether.

PICKED UP NAILS.

Case I. A thoroughbred yearling colt picked up a six-inch cut nail in the off hind foot. The nail went through the cleft of the frog and out in the pit of the heel, performing in its course the operation of frog setting. About two inches from the head the nail had bent at right angles and about two inches more stuck out above the heel and narrowly escaped wounding the fetlock joint. The nail was pulled out, and it took a strong pull to get it out, the wound syringed out with a strong caustic, and recovery was uneventful.

Case II. A similar case, but with a much smaller nail, was met with last week in an officer's charger.

Case III. A bay mare, five years old, purchased the day before, came in to be shod. The shoeing smith found her near fore foot so hot and sore that he directed my attention to it. I found a nail in the outside quarter and a considerable amount of matter under the sole. The wound was treated in the usual way but the matter broke out at the coronet two days after, although free drainage was effected below, and the mare got very bad with septic infection and both hocks broke out. She died a fortnight after. Query—How is it the mare did not go lame at the fair or on the road home?

This subject did not meet with much discussion, but several members present mentioned similar cases in their practices.

With regard to the case of the bay mare, it was inexplicable to the members present how the mare could have gone sound up to the time she came in to be shod, except that, as Mr. Winter mentioned, she had been newly shod on both fore feet and purposely pricked in the off one to make her action level.

FISTULE OF THE WITHERS.

Case I. A brown mare, seven years old, had been treated for three months with "washes," under the directions of a registered practitioner in an adjoining county. A fistula was discharging midway down the near shoulder. The probe revealed three sinuses, one running straight up to the withers, six inches long, one running back under the cantle of the saddle nine inches long, and one a similar length running out along the back in an upward and forward direction. A large opening was made in front of the shoulder blade and the sinuses carefully probed for broken bone or other foreign bodies; none such were found. Crude carbolic acid was forced into the sinuses twice a week, and antiseptic lotion freely syringed into them meantime and the lower opening kept patent with plugs of tow. After four weeks the sinuses were obliterated and the wound allowed to heal. Recovery was perfect, and a blister, to restore the wasted muscles, was the only further treatment necessary.

Case II.—A black van mare met with an accident in a collision on Christmas Eve. The stableman treated the only wound visible—a slight one, midway down the

shoulder in front of the scapula—until the 23rd February, when the mare was brought to me, as the wound would not heal. Examination showed a fistula apparently two inches deep and pointing in a forward direction, with a fibrous swelling oblong in shape, and not extensive, behind it. I thought at first that the trouble arose from a nidus of pus in the latter swelling, or possibly a foreign body. The mare was cast, chloroformed, and the swelling cut down on. The enlargement proved to be an elbow bend of the sinus, which ran from there in an upward and backward direction deeply under the scapula for a distance of ten inches. The probe grated on the inner edge of the scapula but no loose bone could be found. I tried caustic irrigation with a view to destroying the walls of the sinus, and pushed also some crystals of permanganate of potash well up to the end of it, as I thought then. A week afterwards it was evident that further trouble existed higher up, as some pus came away a short time after the sinus was syringed out. The mare was again cast and chloroformed, a further opening was made in front of the end of the scapula, and a long probe ran in under the cartilage easily. A horse catheter was then used and this ran easily back to where the cantle of the saddle would rest, about two inches from the median line. On shaving this spot a distinct bruise was seen. A long seton was run from here to the front of, and under, the scapula. After a few days it was found the drainage was not sufficient, and a perpendicular seton was put in behind the shoulder from this one to the elbow, and another from the hinder end of it to midway down the ribs. A week later another seton had to be run from the midway opening (behind the scapula) under that bone, and out at the point of the shoulder alongside the jugular vein, after a few days this seton worked well and some of the others were taken out. The case is now progressing favourably despite all the butchering. It is evident that one shaft of the colliding trap hit the mare behind the saddle and the other in front of the shoulder, midway down. The surprising part of the case is that the mare worked for two months all right, and there was no appearance of any trouble except the small fistula in front of the shoulder, although there was a lot of matter under the skin of the back and under the shoulder blade. There has been a great amount of sloughing of tissue all along the back, and in front of the shoulder, and a great volume of pus discharged.

This gave rise to a very animated discussion, and Mr. Winter mentioned that in the subsequent treatment of the case he found that liberal irrigation with Peroxide of Hydrogen had a better effect on the sinuses than anything he had tried up-to-date, and the mare was now practically recovered, and looked all right, except for wasting of the muscles along the back and on the shoulder.

TUMOURS OF THE SHOULDER.

Within the last twelve months I have had four or five cases of tumours about the point of the shoulder. In all cases they have involved a great deal of muscular tissue and been deep seated, with a nidus of pus and necrosed tissue. In no case have I got any history of an accident, although the original injury must have been a severe bruise of some sort, or a punctured wound. Extirpation, and complete extirpation at that, seems to be the only remedy. Setons seem to do no good, and blistering only seems to thicken the skin and subcutaneous tissues. Some of the cavities have been simply appalling to look at, and the hæmorrhage difficult to control, but all the cases have done well and gone back to work. One such case seemed to originate from

a collar injury half way up the neck, and the nidus was over two inches in. In this case I believe there must also have been direct violence from a shaft, although there was no history of an accident. If extirpation of all diseased or bruised tissue is practised, the resulting wound fills up rapidly, but, if any is left, the trouble begins all over again. In one case, in the middle of last month, a three pound tumour was dangerously close to the jugular vein, and blunt dissection had to be resorted to as the bleeding obscured the seat of operation, and the trouble was too deep seated for the usual hæmostatics to have effect.

These few rough notes were put together for the Meeting on the first of March, and, as I was unable to attend that Meeting, the discussion on them was adjourned and orders issued for them to be printed and circulated, so as to have a full discussion at the next Meeting on the 17th April.

This item gave rise to rather an animated discussion, some Members contending these tumours were due to Botriomycosis. Mr. Winter pointed out that he was quite familiar with this sort of tumour, or chain of tumours, producing Botriomycosis, but the tumours he referred to were in every case either Fibromas or Myomas, and each tumour had a distinct nidus of pus in the centre, was an isolated tumour, and did not recur on complete extirpation.

The Meeting concluded with a vote of thanks to Mr. Winter for the trouble he took in putting these notes together on very short notice, and the members present remarked that they appreciated such notes far better than a lengthy paper, which rarely provoked a good discussion.

Alleged False Description of Oats.

At Croydon Quarter Sessions H. Leslie Hall, corn merchant, of Whitehorse Road, Croydon, appealed against his conviction by the local magistrates for applying a false trade description to certain oats sold to Messrs. Hall and Co. (Croydon) (Ltd.)

The hearing of the case in the Police Court was reported in *The Times* of March 13th.

This was a prosecution by the Board of Agriculture, and a fine of £5 was imposed. It was stated that oats imported from the River Plate and sold in their natural state are properly known as "Plate oats." It was, however, a common practice to subject them to an artificial process, during which water was added. The proper trade description of these, according to the prosecution, was damped, prepared or watered oats. The oats which the defendant ordered and had delivered to him, invoiced as "P. Plate oats," were retailed to Messrs. Hall as "40lb. Plate oats." Owing to the added water the 100 quarters which were supplied were, in reality, only 95 quarters, so that instead of being 20s. 9d. per quarter, as quoted, the buyers were actually paying 21s. 10d. The appellant subsequently allowed 5 per cent. discount. The appellant claimed that he had acted in perfect good faith, and quite innocently, and that "Plate oats" was not an incorrect trade description.

The Recorder (Mr. R. F. Colam) deferred judgment and intimated that he could not see that there had been fraudulent intent on the appellant's part. He thought that the main point raised should be decided by the High Court, and his judgment would be framed with that in view—*The Times*.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders * (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN.													
Week ended May 4	12		12				4	5	44	32	3	87	992
Corresponding week in	1911	18	23				5	7			1	53	623
	1910	34	35				11	14			1	29	452
	1909	32	34				7	44			3	45	447
Total for 18 weeks, 1912	406		456				61	139	1804	4077	152	1193	15017
Corresponding period in	1911	360	421		1	18	76	221			293	808	8592
	1910		556	680			135	326			302	410	3484
	1909		517	705			222	883			412	560	5210

Board of Agriculture and Fisheries, May 7, 1912.

* Counties affected, animals attacked: London 2. Stafford 1, Surrey 1, Warwick 1.

IRELAND. Week ended	May 4							Outbreaks			
		...	...	...	...	...	...	3	3	3	102
Corresponding Week in	1911	...	1	1	...	...	...	...	3	2	8
	1910	...	...	...	...	...	...	3	9	...	122
	1909	...	...	...	...	...	...	...	9	2	...
Total for 18 weeks, 1912	...	1	1	...	...	...	...	34	244	87	814
Corresponding period in	1911	...	4	4	...	...	1	2	37	227	807
	1910	...	4	6	...	...	1	2	32	300	807
	1909	...	2	2	...	...	...	...	37	262	117

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 6, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Pharmacy and Poisons Acts (Ireland).

HARVEY'S ACONITE-POWDERS.

At the Oughterard, co. Galway Petty Sessions, before Mr. J. B. K. Hill, R.M., and other Magistrates, on April 11th, Mr. John Roe, general merchant and publican, Oughterard, was summoned at the instance of the Pharmaceutical Society of Ireland with (1) keeping open shop for retailing or dispensing poisons, and (2) selling "aconitine, being a preparation of aconite, also emetic tartar, both contained in and forming part of an article called 'Harvey's Aconite-powders for Horses.'" A third summons, at the instance of Sergeant James Shea, Royal Irish Constabulary, was for selling Harvey's aconite-powders without labelling the packet and entering the sale in the poisons book, contrary to the Sale of Poisons (Ireland) Act.

Mr. William Campbell Meeke, solicitor (of Messrs. A. and J. Robinson), who prosecuted on behalf of the Pharmaceutical Society, stated the facts of the case, and mentioned that the defendant had opened a sealed packet of the aconite-powders and had sold the packet opened and with one powder short. Even in the case of a person licensed under the Act it is necessary, he argued, to sell in unbroken packets.

The evidence of Sergeant Shea was to the effect that on November 2nd, 1911, he called at defendant's shop and saw the defendant, whom he asked if aconitine was kept in the shop. The defendant, after a pause, replied, "I keep aconite-powders for horses." Witness asked him how he sold them, and defendant replied, "I don't sell them at all." Witness asked him to let him see them. Defendant took down from a conspicuous portion of a shelf in the shop a cardboard box which was marked

"Harvey's Aconite-powders for Horses." Witness inspected the box and found there were in it two smaller cardboard boxes. He told the defendant he would buy one of these small boxes and asked the price, which defendant stated was 2s. 8d. Witness paid the amount and got a receipt. He told the defendant that it was illegal to sell the powders without being duly registered. The defendant replied, "I do not sell them, but keep them for private use." There was another cardboard box which apparently had not been opened, and it contained more of the powders. Witness saw this on the same shelf. On each side of the boxes were tins of treacle and a quantity of Ellimau's embrocation. The counter over which he was supplied was the one also used for the sale of groceries; and in the same shop intoxicating liquor was sold and supplied, but not over the particular part of the counter used for the sale of groceries. The defendant said that when he took over the charge of the business from his brother George two years previously the powders were then in the shop. The box which witness purchased bore no name and address, but was marked "Harvey's Aconite-powders for Horses"; one side had the following words: "These powders, as their name implies, contain poisons and are so labelled in compliance with the Pharmacy Act." The box was open, and contained five powders instead of six. The directions stated that each packet was a dose for a horse; 2s. 8d. was the price for a full box of six. The powders were in such a conspicuous place that they were unquestionably intended for sale and not for private use. Witness informed the defendant that the legal presumption was that all articles in the shop were for sale. The defendant had not a licence from the County Council, and he did not

tender witness a poisons book. On December 14th witness again called at the defendant's shop and asked the defendant if he still kept the aconite powders in the shop. The defendant admitted that he did, and witness asked him to show them to him; the defendant did so, and witness said that they had been removed from the portion of the shop in which he had first seen them and were now concealed behind an advertisement picture. He told the defendant to remove them at once from the shop.

Mr. Walter Thorp, B.Sc., F.I.C. (Dublin) proved his analysis of five Harvey's aconite powders, which contained 1 grain of aconitine, or sufficient as a fatal dose for at least twenty men; also tartar emetic.

The Magistrates held that the charges against the defendant had been proved, but suggested that as he appeared to have acted inadvertently, a penalty should be pressed for in one of the summonses only.

Mr. Meeke agreed to withdraw the summons on the charge of keeping open shop, and also that under the Poisons Act, on the condition that the defendant paid the cost of the stamps on the withdrawn summonses, and also the fine and costs on the remaining summons before the Court rose.

The defendant gave this undertaking, and paid into Court a fine of £5, with £1 cost on the summons under the Pharmacy Act for selling poison without being properly qualified, with 4/6 the cost of the stamps on the withdrawn summonses.—*The Chemist and Druggist*.

A Crib-Biting Case.

At Limerick Quarter Sessions, before his Honor County Court Judge Law-Smith, Robert J. Cotton, Brerfield, Co. Roscommon, sued James and Philip O'Dea, father and son, residing at Oola, in this county, to recover a sum of £50, money paid for a horse purchased at the last October great Munster fair, the animal being warranted sound and turning out to be a wind sucker and crib-biter.

Mr. L. O'B. Kelly (instructed by Mr. E. Leahy, solicitor), appeared for the plaintiff, and Mr. P. Kelly (instructed by Mr. William Frewen, solicitor, Tipperary), for the defendants.

Evidence for the plaintiff to prove that the horse, a three-year-old black colt by Pop Off, was purchased for £65 from a farmer named Duggan, acting for the defendants, who are farmers. The colt was sold subject to a veterinary examination by Mr. Patrick, v.s., Mullingar, and passed as sound, and to the notification that if the horse was a crib-biter or a wind sucker it would be sent back. Plaintiff subsequently found the animal was a wind sucker and not as such quite value for more than £20. Correspondence ensued, and defendants failing to comply with plaintiff's request to return the money paid and take back the horse, legal proceedings were instituted. It was admitted by the plaintiff that there was no engagement given with the horse, other than a verbal one to the effect that it was not a wind sucker or crib-biter.

The plaintiff was examined and bore out the statement of counsel.

Mr. W. Cargill Patrick, v.s., stated he examined the colt and certified the animal sound and free from crib-biting and wind sucking. He so marked the examination, after telling Duggan that if he had either habit he should be taken back. A fortnight ago witness saw the horse and found him to be a crib-biter and a wind sucker, and most accomplished at both.

DEFENCE.

Mr. Edmund Duggan, farmer, said he resided at Oola, and went with young O'Dea to sell the horse at the fair. On the road they met the plaintiff, and another man later, who bought the colt for £65. The animal was examined by the last witness, who asked was he a crib-

biter. Witness said it was for the previous witness to know that.

Witness, in answer to a further question, said he knew nothing about the horse, other than that he belonged to witness's next door neighbour. Mr. Patrick never said that if the colt was a crib-biter or wind sucker he would have to take him back.

Philip O'Dea said he was the owner of the horse, but he was not present when the sale was effected. Cotton's brother came subsequently to arrange terms of settlement, and admitted there was no engagement given at the sale.

By Mr. Kelly: When Cotton's letter was received to take back the horse, that the animal was a wind sucker, witness talked to a few about it, and they said not to mind it. That was why he did not answer the letter.

James O'Dea, senr., in answer to Mr. Kelly, said he asked Duggan to sell the horse because witness could not do so.

Mr. Kelly said his sons were young men following horses for some years, while Duggan was an elderly man. Was that the reason to shuffle out of the warranty.

The witness said Duggan was after selling 20 horses belonging to neighbours of witness.

His Honour: An experienced man.

The witness: And that is the reason I got him to sell the horse—a fit man to follow the horses on the road, and not have my gossoons hurt.

His Honour: Duggan was experienced in selling horses?—Yes, after selling 20 of them.

His Honour: A knowledgeable man.

Mr. E. C. Winter, V.S., stated he examined a horse by the same dam as this colt, and witness never heard that the animal was a crib-biter. Witness never heard of a veterinary surgeon giving a certificate that a horse was a crib-biter or a windsucker. It was a question very rarely asked with regard to long tails, or that a young horse reared, as such horses were in the open, was a crib-biter.

His Honour said he was satisfied that the animal was a crib-biter and a wind-sucker, and on the day of the sale was so. That was the reason that very innocent gentleman, Mr. Duggan, was selected to sell the horse suffering from this disease at the time. It was now proved that the horse was worth only £20, and accordingly he would give a decree for £48 to cover the expenses. Doctor Patrick was well known in the midlands, and as between his action and that of Mr. Duggan, his Honour absolutely believed what Dr. Patrick stated.

Mr. W. Cargill Patrick: Thank you, my lord.

It is understood an appeal will be lodged.—*Limerick Chronicle*.

Claim for Mare's death.

At Stowmarket County Court before His Honour Judge Eardley Wilmot, John Henry Lewell, Gisligham, sued the Horse, Carriage, and General Insurance Company, Ltd., for £31 9s. 10d., for death of a mare under a policy of insurance, and £4 premium on the same. Mr. Cloughton Scott (instructed by Messrs. Hill and Perks, Norwich, solicitors to the Tenant Farmers' Protection Association, Ltd.), appeared for plaintiff, and Mr. E. P. Ridley (of Messrs. Birkett, Francis and Ridley) for defendants.

Mr. Cloughton Scott, in opening the case, said the claim was for £20, in respect of the insurance upon a mare named "Smart," and £4 in respect of the fact that the defendants wrongly cancelled a policy upon other horses. Plaintiff was a farmer, and had five horses upon his farm. He met an agent of the company named Freeman, who wanted him to insure his horses. Eventually on February 23rd, 1911, plaintiff met Freeman at Ipswich, where the matter was again gone into. Freeman pressed the plaintiff to fill in a proposal form there and

then. Plaintiff replied that he did not know the exact age of his horses, and suggested that the matter stand over for a week. Then Freeman asked what was the average age of the animals, and plaintiff replied, "about eight or nine years." This statement, Freeman added, was near enough, as the horses would be examined, and he filled in the form accordingly, the ages being all given as eight, and the height 16 h.h. The company sent a veterinary surgeon named Mr. R. Davey to inspect the horses, and plaintiff told him that the ages were given between eight and nine. Mr. Davey took a report for defendants, and the ages were accurately given, two being nine years, one eight one ten, and one eleven. That document was sent to the company, and the policy was issued on March 2nd, which date it bore. Before the premium was paid the Company had full knowledge of the age of the mare named Smart, the subject of this claim. The mare was found dead after wards in her box, but plaintiff had no idea of the cause of her death. Knowing she was insured for £25 plaintiff thought that the best and fairest way would be to send for Mr. Davey. He came, and found that when the animal was cut up she had suffered from rupture of the bowels. Plaintiff next wrote to the Company saying the mare had died, and defendants replied, "Retain carcass until a post-mortem is made by Godbold." Plaintiff went to the premises of a knacker named Reed, to which place the carcass had been taken, to tell him to keep the carcass, but he was informed it had been cut up. He wired the Company, saying the carcass had left the farm. An inspector from the company came down, and in an extremely unnecessary way suggested that plaintiff had misrepresented the age of the mare, and subsequently informed him that he had no claim upon them, and the premium would be forfeited, as the animal was not correctly described. This animal was bought at Mr. Simpson's sale at Bury St. Edmund's as eight years of age, for 22½ guineas.

Plaintiff was then called, and bore out counsel's statement, saying Freeman filled in the form of proposal after he had objected to it.

R. Davey, horse dealer, said he thought the mare in question was eleven years of age. The carcass was removed to Reed's place on his instructions.

Mr. Ridley said the Company were carefully protected by their policy against what was unfair, and when there was cause for suspicion they could bring the case to Court, as in this instance, and hear what the other side had to say.

His Honour said what the Company were suspicious about, a little enquiry would have shown was a genuine case.

Mr. Ridley said the Company were entitled to have 24 hours' notice before the carcass was parted with. It was a condition precedent to any claim under the policy.

His Honour said the Company might have a claim, if there was any, against their agent, for carelessness. A horse might be burned to a cinder, and then a man would not be able to retain the carcass. He could not see any doubt in this case, and there was no suggestion as to fraud. Judgment was given for plaintiff for £25 6s. 8d.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, May 2.

REGULAR FORCES. ARMY VETERINARY CORPS.

Vet.-Capt. C. H. Hylton-Jolliffe, from 1st Life Guards, to be Capt., with precedence next below Capt. G. P. Knott. Dated May 4.

May 7.

Maj. C. B. M. Harris, D.S.O., retires on retired pay. Dated May 8.

OBITUARY.

BARTON.—On April the 30th, at Upper Norwood, Williamina McKay, the beloved wife of Frank Townend Barton, after 18 months illness and suffering, borne with splendid courage and devotion.

CORRESPONDENCE.

UNQUALIFIED ASSISTANTS.

Sir,

The remarks of Mr. Bower on the above subject will be read with interest by practitioners. Any attempt to deal with the question by the adoption of Cromwellian tactics is bound to end in failure. It is not an easy matter to define, under the existing law, what duties an unqualified assistant may perform, provided his employer does not represent him to the public as being qualified. As a matter of fact the public prefer an unqualified man with experience, to a qualified man who lacks this essential. A large proportion of veterinary practice, at any rate in country districts, is more concerned with the Art than the Science of the calling, and this fact is soon ascertained by the young graduate if he lack experience in this class of work.

In order to render unqualified assistants a thing of the past it is necessary to supply qualified assistants possessing at least a sufficient knowledge of practical details.

Whether the present system of teaching is capable of carrying this out is a matter on which opinions may differ. One thing is quite certain, viz. that the opportunities for obtaining clinical knowledge suitable for country practice do not exist in the teaching schools, and the only manner in which this knowledge can be obtained is for the student to become a pupil with a country practitioner.

As matters stand at present, it is quite possible for a student to become qualified although he may never have had any practical acquaintance with obstetrics. True, he may know Fleming's work on the subject from cover to cover, and carry in his mind vivid recollection of obstetrical diagrams as displayed in the lecture room, but when he comes to apply his theoretical knowledge in the stable or cow-shed, surrounded by a crowd of wiseacres, he receives a rare awakening.

The art of the calling cannot be learned from books or lectures, but must be acquired by actual observation and by assisting at the various details.

And not only is there the art of dealing with the patients, but also the art of pleasing the owners of the animals.

Now no reasonable individual expects that the young graduate could possess these attributes to the same extent as the practitioner who has a long experience. But we should insist that he has sufficient practical knowledge to carry out the ordinary duties of the profession. How is this to be obtained? By making it compulsory that every candidate for the diploma shall produce a certificate of having attended as pupil with a practitioner for a certain period. The student of human medicine is not compelled to produce such a certificate, but instead he must furnish certificates of attendance at hospitals, and also of having been in attendance on a certain number of midwifery cases. It is impossible to ascertain by either written or oral examinations the amount of practical knowledge that a student possesses with reference to certain subjects, hence the system of compulsory attendance is the only way out of the difficulty.

When such certificates are compulsory at the veterinary final examination, and when matters are arranged so that the clinical examination will be on a par with that exacted in human medicine, then indeed the young graduate will have nothing to fear from his unqualified rival.

Lucrative Government posts, appointments in Public Health Departments, etc., cannot be obtained by all graduates, while in spite of the advent of the motor car, there is still demand for the private practitioner, provided

he is able to prove his utility to the public. But in order to accomplish this he must possess something more than an intimate knowledge of text-books, or of the intricate science of bacteriology. "Colic, castration and cow-calving" look simple subjects in books and lectures, but are very different in the stable, field and cow-shed, and the young graduate soon learns after leaving College that "the bacteriological tail has not yet succeeded in wagging the clinical dog."—Yours, etc.,

E. WALLIS HOARE.

May 6th, 1912.

Sir,

I see the profession are up in arms again at the employment of unqualified assistants, and if your columns are open to hear both sides I think I may be able to shed a little light on the subject, and having been one of these "outsiders" for sixteen years I think I can claim a little knowledge of the controversy at issue.

Until the era of motors, we heard nothing of the trumpet call to smash the enemy within our gates, but the profession now is in very low water owing to electric traction, and someone has got to be hanged, and as we are easy to get at, they are trying to ring our death knell through no fault of our own.

If "the powers that be" are so anxious to improve the status of the profession why not bring the following gentlemen to the tribunal who, of course, are duly qualified: The professor of the art at Camden Town who published a "wonderful work" in nine volumes with beautiful coloured plates at a price to suit all pockets, for the canvasser will call for instalments as desired; qualified men on the staff of patent medicine vendors; qualified men employing unqualified assistants to do all the work, and when leaving their employ advertising that Mr. Blank was only employed to keep the books (qualified men in the Midlands please note!); qualified men taking contracts at 4/- per annum, and others of a more generous nature working for nothing; qualified men giving free advice through the press; qualified men holding honorary appointments at institutions for lost cats, and instructing the charwoman how to become a "cat specialist"; qualified men touting for orders at shows and repositories. I think this list will do for a start and, if necessary, I can furnish a few more.

It must be remembered that qualified assistants are generally "birds of passage" with little or no interest in their employer, but for ever on the look out for a Government appointment, and then take wing, leaving everything to a new man, and of course the practice suffers. Moreover, they require the services of an unqualified man to do nearly all the work which is considered to be *infra dig*, and it is a well known fact that unqualified assistants are not so fond of looking upon the wine when it is red.

If these gentry will put their own house in order, we shall then hear less of the iniquity of the unqualified man.—Yours truly,

"HONI SOIT QUI MAL-Y-PENSE."

VIVISECTION AND THE VETERINARY PROFESSION.

Sir,

There are two letters from laymen that appear in your issue of May 4, that ought not to pass unnoticed. Mr. Richardson, writing in *The Referee*, contrasts one young qualified man with the whole army of unqualified operators, much to the detriment of the former, and builds up an argument, but a very poor one, against the abilities of all qualified men.

Mr. Petley gives away his case by assuming in the last paragraph of his letter that the veterinary profession has lost its standing and that the unqualified man has been the great factor in the fall. As a matter of fact unqualified men are not nearly so plentiful as they used to be, and those few that exist retain their position and hold of the public by some characteristic, connected most probably with the personal equation.

It is perhaps quite natural that youth should take an almost abnormal interest in the matter of emasculation or castration. A race of eunuchs would possibly be less deeply interested. In nine cases out of ten when you read a layman's letter to the press criticising our profession, this matter of castration crops up. They say our members ought to be taught "practical surgery—like castration." If one were to ask an eminent human surgeon what he thought about the surgery of 90 per cent. of veterinary castrations in this country, and especially since the standing method became the vogue, I think the answer would be that the testicles are truly removed, but the less said about the surgery of the matter the better. It is because there is so little scientific surgery about the operation that the unqualified man often competes successfully against the qualified one. When I am castrating, or watching others at the job, I often think of the travesty of "the art of veterinary surgery" as evidenced in this operation. The public dictate largely to us in this matter as to how we shall proceed (the layman is excluded from witnessing a human surgeon operate) and if we refuse to act as they wish, some eager slasher is given the job, or an unqualified man is imported into the neighbourhood (occasionally under the aegis of a qualified man, who of course does the operation himself, but doesn't care much about it) from whom the importer draws a commission.

So much for castration and its surgery. Now, what about education? Mr. Richardson seems to think that if the three years course were substituted for the present four years one, and more practical surgery taught, the unqualified man wouldn't stand as good a chance as he does at present, and the young graduate would be better fitted to be of use in his profession at once. Less education is a cry that will not make headway nowadays, and most men will agree that education never made a man a worse practical performer, providing that perseverance, adaptability and energy accompany it.

The matter here, again, is one of the personal equation. As to more practical surgery being taught, it takes a man almost a lifetime to become perfect in the art and science. Experience alone will make him a master. When he is a master he will (if he is a veterinary surgeon) often ask himself scornfully what should these men know about my art?

Instruction from practical men who are also qualified, and some of whom really are capable men, may still be had by the graduate who requires it, and pupillage is not discouraged but encouraged by the powers that be. There is an old saying, "If there were no fools there would be no fairs," but the gullible public that thinks it knows will always preponderate, although a 20 years course of instruction or longer is really what it wants. As long as the gullible and indiscriminating public exists the unqualified man will always have a field for the display of his cheap attributes. The law can only intervene successfully against malpractice by an unqualified man when those who administer it and bring the charges under it are educated and intelligent enough to appreciate the full flagrancy of the act committed; and just as it takes a legal gentleman to point out a flaw in legal procedure, so it requires veterinary evidence to bring home a charge of veterinary malpractice.—Yours faithfully,

G. MAYALL.

NEW COAL MINES REGULATIONS.

Sir,

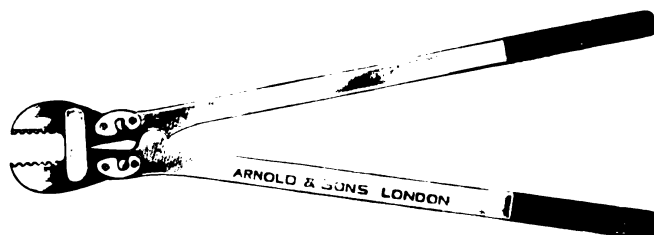
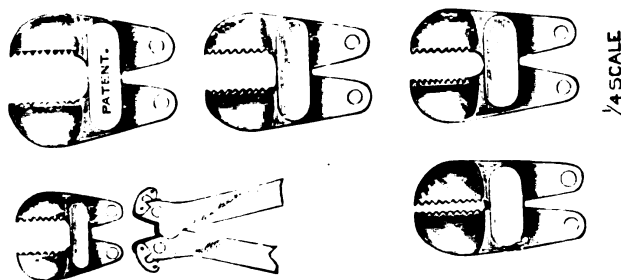
Probably many veterinary surgeons will now be consulted by their clients concerning the various new guards or protectors for the eyes of ponies working underground. They should remember that anything to decrease the range of sight will increase the risk to the animal. It is necessary for the wearer to be able to see anything approaching from behind and the amount of room in which to turn round. Further, if it will cause any injury or inconvenience having to continually look through small wires, or if any of the mechanical arrangements can, in case of accident, be driven on to the eye to damage it. Also, the conditions of heat and moisture will have to be taken into consideration.—Yours faithfully,

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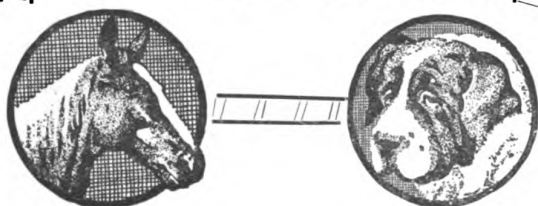
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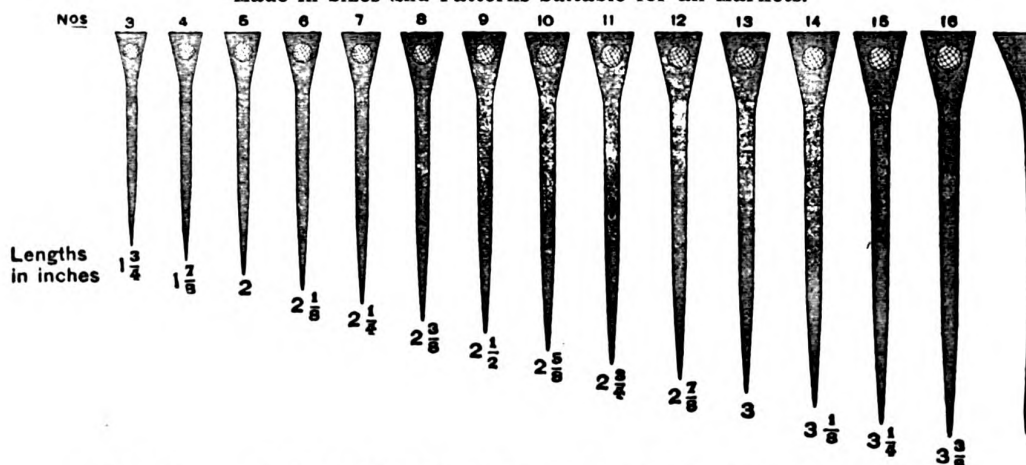
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June 5th, 1912.

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THE Annual Regimental Dinner will take place at the Whitehall Rooms, Hotel Metropole, on Friday, 21st June, at 8 p.m.

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No. 1245.

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THE ONE PORTAL SYSTEM.

The proverbial hard-headedness of Yorkshiremen was well illustrated by the reception given to the revolutionary resolution which Mr. Arnold Richardson recently submitted to the Yorkshire V.M.S. The resolution—"That, in the opinion of this meeting, our one-portal system is prejudicial to the interests of our profession" was introduced by its mover in an eloquent and persuasive address. But, in the subsequent discussion, member after member arose and spotted the weak point at once. They recognised the address as being earnest, clever, and courageous, but almost entirely irrelevant to the resolution. It was a good argument in favour of a high educational standard for veterinary students, and it advanced some reasons for the creation of a new diploma in public health work. But it contained not a solitary excuse for destroying our system of one-portal entry to the profession. All the members of the Yorkshire V.M.S. saw this; and therefore they voted unanimously against the resolution.

Mr. Richardson commenced by making it quite clear that he was speaking absolutely in an individual capacity—that he was representing no one but himself. This declaration was not unnecessary; for, without such an assurance, we might have suspected one University, or veterinary school attached to a University, of departing from the understanding which has always governed the relations between our profession and the Universities.

Sir Rubert Boyce, when he established the Liverpool School, fully acknowledged the value of our one-portal system to us, and reiterated his desire that we should always retain it. Sir Christopher Nixon, when he initiated the Dublin Veterinary College, assured us that we need not fear any interference with our sole power of licensing to practice. The Senate of Edinburgh University has attached the Dick College with the same clear reservation—that we should retain the one-portal system. So also with the arrangement between London University and the Royal Veterinary College—our sole right to license graduates for practice is fully recognised.

Half of Mr. Richardson's address is devoted to an argument in favour of University teaching and the value of University associations to students. Has he overlooked the fact that every Veterinary teaching school is now associated with a University? The fact that University teaching would be good for Veterinary surgeons if it were distinctly and specially arranged for them, is no argument in favour of each University being empowered to grant a license to practise. Surely some special knowledge

of the requirements of a veterinary practitioner is needed upon the diploma-granting body; and no University Senate possesses that knowledge. Mr. Richardson perhaps a little over-estimates the importance of public health work and laboratory training in the education of the average practitioner. They are and always will be much more important than they once were, but they will never be the most important subjects to the bulk of practitioners. The large majority of practitioners will always be engaged in serving the public by the practice of medicine and surgery; and no one outside of such experience can estimate the quantity and quality of knowledge necessary to make the most useful practitioner.

Mr. Richardson introduced some references to the Veterinary Surgeons' Bill, and these are very interesting. In one particular some correction is required. Mr. Richardson says "When the Bill was submitted to the profession originally it contained clauses the objects of which were the stamping out of quackery and the non-professional castrator. . . . Now these clauses are to be deleted. Votes for the Bill have been recorded, but the benefits have been withdrawn. If the Bill were submitted to the profession to-day without the original clauses it would be rejected." These are surprising utterances: for the fact is that the clauses in question were deleted from the Bill before it was submitted to the profession at all. They were deleted, at the instance of the Privy Council, early in 1908. Two Council elections have been fought upon the Bill since then—in 1908 and 1909. And at each the profession's verdict has endorsed the Bill—with increased emphasis in 1909.

But in another particular Mr. Richardson deserves our gratitude—we may thank him for a new argument in support of the Bill. He states that we are in this dilemma—we must either obtain our Bill, or drop the one-portal system. We quite agree, but few of us will have any doubt how to choose. The first alternative means a small fixed subscription from each member, and this will preserve the uniformity of our diploma and the independence of the profession, and retain all our affairs in the hands of those best fitted to manage them. The other would split up the profession into several tiny fragments dependent upon different Universities, at each of which our education would be guided by the ideas, and modelled to suit the convenience of the preponderant medical faculty. We shall always be a very small body, and, therefore, unity and independence are essential to us—Mr. Richardson proposes that we should give up both, without offering a single valid reason for doing so.

THE OPERATION FOR ROARING : A SUGGESTION.

By J. J. O'CONNOR, M.R.C.V.S.

Professor, Royal Veterinary College, Dublin.

When one opens a larynx of a living or dead animal which has been operated upon for roaring, he is struck by the deformity caused by the left arytenoid cartilage projecting towards the lumen of the larynx, although the laryngeal ventricles have been completely obliterated. One also observes that this arytenoid is quite movable—that it can be made to sway in and out by means of the finger, thus leading to the supposition that it may also be impinged upon by the inspired air and made to vibrate and cause a noise, not so shrill, however, but softer than that caused by the vocal cord when it is left free to vibrate, as in the case of the roarer not operated upon.

An interesting case came under my notice the other day. A very good, well-bred hunter mare, which had run with distinction in point-to-point meetings, was brought to me for the roaring operation. As I was about to operate, a gentleman present recognised the mare as having been operated upon already, two years ago. However, I proceeded with the operation to see if anything further could be done. No trace of the operation wound could be discovered until the skin was shaved, when a faint line could be seen representing its site. On opening the larynx both ventricles were found obliterated, but the left arytenoid was decidedly encroaching on the lumen of the larynx, and it appeared somewhat larger than usual. On placing the finger between it and the thyroid cartilage it could be made to move farther towards the middle line.

My idea is—in addition to stripping the ventricle to remove a strip of mucous membrane from the outer lateral aspect of the arytenoid, thus making a wound which in cicatrising will draw the arytenoid away from the middle line and fix it to the thyroid, thus making it less movable and preventing its coming in the way of the inspired air.

I would suggest this additional stripping being performed on horses already operated upon for roaring, but without success, provided, of course, that the failure was not due to ossification of the larynx. I would not advise both sides of the larynx being operated upon when only one side is affected: operating on the non-affected side of the larynx appears to me to have no real justification. It seems unnecessary mutilation of the organ, and must be much more likely to be followed by untoward results—such as dyspnoea soon after the operation, and ossification of the cartilages later on. The fact that it is not necessary is shown by the number of successful cases in which only the affected side has been operated upon.

In the case referred to, the owner had the horse examined when he purchased him, and the veterinary surgeon did not detect that the horse had been operated upon for roaring, but passed him sound except for the noise.

I may mention here two other cases of roarers operated upon, interesting on account of the long time which elapsed before improvement occurred, and from the fact that they were operated upon by a trephine opening in either thyroid cartilage, through which only a small portion of the mucous membrane was removed from the apex of the ventricle and from the inside of the vocal cord. One horse was tried at intervals up to 12 months after operation without signs of improvement, but on being tried 18 months after the operation there was very marked improvement, and an absence of distress previously present. The other horse showed no improvement until six months after the operation: it was then very marked. Both horses were extremely bad roarers.

In neither case was there any thickening of the thyroid cartilages where they were trephined, in fact a slight depression could be felt here.

TORSION OF THE UTERUS IN A HEIFER.

As it is some time since a case of this trouble has been mentioned, I venture to record my experience at Mr. Atkinson's Farm, St. Bees.

Subject. Red shorthorn heifer.

History. At the full period of gestation mild labour pains were noticed from twelve to fourteen hours before the owner, having seen no water bladder, made a manual examination, and found that there was "no passage."

Thinking the case would be one of premature labour, I went with all confidence of having an easy case. On arrival I did not wait to observe all the external symptoms of torsion which one used to rhyme off in college days, but immediately called for soap and water, and inserted my hand into the vagina, when the actual state of affairs was indicated by the spiral folds of mucous membrane winding round to the left, forming a complete twist a little further forward.

Satisfied as to my diagnosis, I had the cow driven out into a sloping grass field, cast on the left side, and the feet, fore and hind, secured. Then commenced rolling her over to the left. After a few turns I was able, by following the direction of the folds, to touch a leg, which I endeavoured to stick to whilst the heifer was being rolled. Half-a-dozen turns with the heifer in the dewy grass did not improve matters much.

Having now reached the bottom of the incline, our animal was allowed to rise, when she bravely marched, with the rest of us, to the top, during which time I had decided to try a twitch with plenty of length of rope in it; this I eventually fixed on to a leg, and screwed it up, until I had drawn pretty near together the shank of the twitch and the calf's leg, which was now wedged in the vagina. Taking a firm hold on the twitch with both hands, I ordered the animal to be again rolled. On inserting my hand after a turn or so, I found, at last, a straight passage. The fœtus was upside down, and the head to one side and underneath the body.

With a little trouble delivery was effected, to my surprise, of a live, healthy calf.

The heifer required attention for a few days, on account of a bruised vagina, but ultimately made a good recovery.

C. F. SHAWCROSS, M.R.C.V.S.

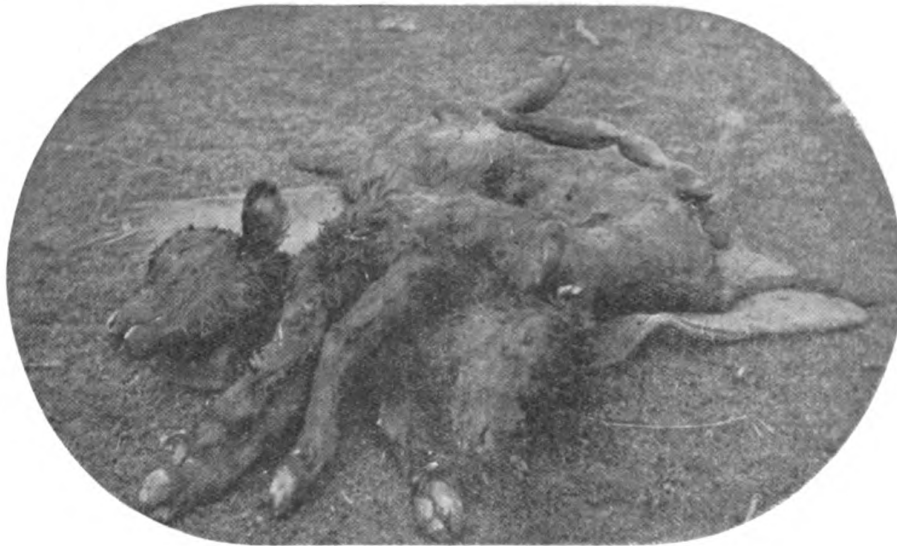
Herewith are two photographs of a monstrosity which occurred in my practice a short time ago. I do not think any explanation is necessary, except to say that the two calves were perfect in every

detail, joined together by the abdominal wall along the median line, and were alive at the time I commenced to deliver them. Both were heifers. They were by a "Polled Angus" bull, out of a cross-bred Alderney cow, which I am pleased to say made a good recovery, despite the fact that I was about four hours in delivering the calves.

W. L. GASCOYNE.

Lutterworth.

[Some details of the delivery would have been interesting—Ed.]



VETERINARY CINEMATOGRAPHY.

I wonder whether it has ever occurred to any member of our profession, what a book the cinematograph would be as applied to Veterinary Science. There is no end of scope for such an enterprise, for the subjects depicted could be made highly instructive to Veterinary Surgeons, and possibly sometimes amusing. By the use of such living pictures much could be taught of practical value to students and in a manner calculated to impress the subject matter on their minds a great deal better than all the "telling" in the world. It is well known among us students that we never once have any practical demonstration on the handling of cattle, sheep, or pigs at college, and many a man securing a country assistantship for the first time knows next to nothing of the practical side of the business. If a film could be exhibited at every V.M.A. weekly meeting it would undoubtedly attract an enormous attendance—not only of students but also of qualified men. I further suggest that the photographs should be "taken" by an expert employed solely by the R.C.V.S. (or some such body) and that the films should be the property of such body, and be used exclusively for the benefit of Veterinary students and practitioners. The expert could travel to the meetings of the

various Veterinary Societies and give a short and sweet highly instructive Veterinary entertainment.

To support the cost of films and machinery, and the experts' wages, etc., a small contribution might be asked of the members present at any such meeting. The expenses would not be great after all, and who knows, the year's takings might even show a profit. The variety of pictures is unlimited, and among others that have crossed my mind are: (1) Catching and restraining animals for operations; (2) Methods of restraint for all the animals we deal with and for whatever purpose; (3) How to sling an animal when down; (4) How to set fractures in various ways on various animals; (5) Proper methods of administering draughts or drenches, pills, powders, electuaries, etc.; and applying blisters and other ointments, lotions and dressings of all kinds; (6) Methods of castration and speying in different animals and birds; (7) Procedure followed at post mortems; (8) Depiction of all the many operations both common and otherwise; (9) The distinctive attitudes of animals when afflicted with various diseases such as Traumatic Pericarditis of oxen; Sleeping or Mad staggers, Laminitis, Tetanus of horses, Rabies, Hemiplegia of Dogs, and others; (10) Parasitic life, showing all the various ticks, lice, acari, flukes, worms, etc.; (11) Extraction of teeth in the domesticated animals,

Rasping of ditto, and the different instruments employed for these purposes; (12) Processes of Preparation of Carcases for food, including pictures dealing with Meat Inspection; (13) Improvised methods of removal of injured cattle or horses from one place to another; (14) Transport of animals by ship or rail, with methods of getting them aboard, etc.; (15) Lameness in horses, and the peculiarities in gait as arising from different causes; (16) Parturition cases; (17) Botanical pictures showing poisonous grasses and plants, etc.

And from an "amusement" point of view: (1) Cub, Hare, Stag and Fox hunts could be shown; (2) Football, Cricket or other matches between our College and others; (3) Annual Sports; (4) Exhibitions of Buck-jumping and expert riding in the "Far West"; (5) Lassoing of Cattle, etc.; (6) Whip-pet Racing; (7) Horse Racing; (8) Pigeon-flying; (9) Polo; (10) Breaking in colts; (11) Training of wild and other animals; (12) Zoo life; (13) Pictures from Dog, Horse and Cattle shows, and many other items of interest and amusement from all parts of the world, could be employed.

What are the opinions of others on this matter? It seems to be there is no end of scope for such an enterprise.

HAMILTON KIRK,
London. Class D Student.

ABSTRACTS FROM FOREIGN JOURNALS.

PERITONEAL TUBERCULOSIS IN THE HORSE.

Zschokke records (*Schweizer Archiv.*) a case of a saddle mare, nine years old, which was admitted to the Zurich Veterinary School for treatment as suffering from ascites and progressive loss of strength and condition.

The mare presented an exaggerated abdominal circumference and was "saddle-backed." The subcutaneous fat appeared very reduced, and the ribs were apparent.

The mare, hitherto a very vigorous animal, had become apathetic, although the appetite was still fair. The rectal temperature was 100.9 F., the pulse from 48 to 50, and the respirations 18 per minute. The pulse was regular and fairly strong, and the sounds of the heart were normal. Percussion and auscultation of the chest revealed nothing abnormal; and neither cough nor catarrh was present. The conjunctiva had a normal tint; and the lymphatic glands did not show the least engorgement. The left hind limb alone showed a slight œdema in the region of the cannon.

Percussion of the right portion of the abdominal wall yielded a tympanic sound, attributable to gas contained in the large colon. The abdominal wall, which was very tense, was insensitive. Rectal exploration revealed no gaseous distension of the intestine; the uterus was normal, and the kidneys, which were well accessible, showed no lesions.

Along the course of the posterior aorta, however, the hand detected some swellings which gave the

sensation of hypertrophied lymphatic glands. It was not possible to demonstrate either liquid contents in the abdomen, or abnormal sensitiveness in one point of the abdominal cavity. The mare had never shown colicky pains, and the fæces were normal.

Ascites is rare in the horse, and especially rare without co-existent symptoms of hydropsy in other organs. Nevertheless the typical form of the abdomen, the "saddle-back," and the sonority to abdominal percussion, combined with the absence of voluminous contents in the intestine and in the uterus, permitted no other diagnosis than that of ascites. The author suspected the development of a tumour which had caused stasis of the portal system, and pronounced the mare incurable.

Post-mortem, from 80 to 100 litres (= 140 to 175 pints) of serous fluid were found in the abdominal cavity. The peritoneum showed a great number of villous red patches, resembling placental cotyledons which were as abundant upon its parietal as upon its visceral portion. The mesenteric glands were voluminous, and had a yellowish tint. The gastrointestinal mucous membrane was normal. The liver, spleen, and kidneys were normal, as were also the thoracic organs, with the exception of a slight engorgement of the bronchial lymphatic glands.

Microscopical examination by aid of Ziehl's staining method revealed the existence of bacilli of the shape and size of tubercle bacilli. The author therefore regards the case as one of serous tuberculosis.—(*Annales de Méd. Vét.*)

[It is not stated whether the microscopical examination included the lymphatic glands, nor, indeed, what it did include.—*Transl.*]

BOVINE HÆMATURIA.

Roger, in a very long article (*Répertoire de Laquerrière*) makes a complete study of this disease, and draws the following conclusions:—

Bovine hæmaturia is a chronic affection, and manifests itself by intermittent attacks of abundant hæmaturia, without thermic reaction, which cause profound anæmia and progressive cachexia, leading up to death.

This hæmaturia is endemic in the west and the centre of France, and is also observed in Germany, Belgium, and Italy. It may be met with in various places sporadically. It is associated with the presence of vegetations or ulcers in the bladder.

The disease has been attributed to various causes; and the author, after reviewing the different agrees with none. No specific microbe is known; and though Arnold, in Germany, has described coccidia in connection with the disease, numerous investigations have failed to reveal these in France. In the epithelium of one bladder the author found oval forms not showing any clear structure and not resembling any parasite actually known. While reserving a final opinion upon the nature of these bodies, he is strong inclined to regard them as epithelial cells undergoing a special degeneration. He admits the inflammatory nature of the disease, regarding it as an inflammation of toxic origin; but

the precise nature of the etiological agent remains problematical.

These lesions commence in the chorion of the mucous membrane, and consist of a nodular neoformation of vasculo-connective tissue, which is inflammatory in its origin. The process shows two tendencies in its development—a *vascular* and a *connective tissue* tendency.

In the immense majority of cases the vascular tendency predominates, and only allows so much of the connective tissue as is necessary for the framework to subsist. Everything seems to be transformed into new vascular tissue. The epithelium remains intact.

The connective tissue tendency appears in certain cases, concurrently with the vascular tendency, and a fibro-angiectasic vegetation, without participation of the epithelium, is then produced.

In some cases, much more rare, the epithelium participates in the formation of the neoplasm, and a very vascular papilloma is developed.

In all cases the lesions become pediculated after a certain time, owing to the contraction of the vesical walls and the flow of the urine.

Lesions of the kidneys, ureters, and urethra are exceptional. The most characteristic, the most frequent, the most precocious, and the most serious lesion of bovine hæmaturia is the angiomatous lesion.

The author regards the fibro-angiomatous lesion as indicating a defensive reaction of the organism, and as being in all cases a favourable form of the disease.

The nature of the pathological process in the disease may be looked upon as the evolution of an inflammatory nodule towards the angiomatous, the fibro-angiectasic, or the papillomatous form. Hæmaturia is caused by rupture of the vessels of the lesion, perhaps under the influence of augmentations of pressure caused by contraction of the bladder.—(*Annales de Méd. Vét.*).

INFECTIOUS PNEUMONIA OF SHEEP.

Infectious pneumonia of sheep, or more correctly, *Septicæmia pluriformis ovium*, appeared in eight veterinary official districts of East Prussia in 1909, in the acute, sub-acute, and chronic form. Chiefly it affected lambs, and more rarely yearlings.

In the acute form the lambs suddenly refuse food, are dull and feeble, and finally become unable to rise. If forced to their feet, they stagger a few steps forward, and then fall down again. Often the abdomen is considerably distended. The visible mucous membranes are pale rather than reddened. There are no symptoms of pneumonia. As a rule death takes place in one or two days, more rarely in three or four days.

Post-mortem, the lesions are exclusively those of septicæmia. The blood is fluid and black-red; the large parenchymatous organs are dull in aspect; and the spleen, liver, and kidneys are generally swollen. Small hæmorrhages are present under the epicardium; and the mucous membrane of the small intestine is reddened, dull, and swollen. The lymphatic glands of the body, especially the retro-pharyngeal, sublingual, and sub-maxillary glands,

are swollen, dark red, and juicy. The lungs, as a rule, show no special alterations.

When the course of the disease has been longer, other alterations are found in addition to the foregoing. Opaque, hæmorrhagic fluid is found in the peritoneal cavity; and hæmorrhages exist under the serous membranes, upon the kidney, and under the capsule of the liver, where they sometimes attain the size of a three-mark piece.

In the sub-acute and chronic forms of the disease, feverish catarrh of the upper air passages and the conjunctival mucous membrane appear at the beginning of the illness. In addition, the animals show a dull appearance, loss of appetite, stiffness in progression, swelling of the limbs, accelerated respiration, and cough.

In this form, post-mortem examination very often reveals firm brown-red portions of the lung which are devoid of air, and the existence of fluid in both pleural and pericardial cavities. The pleura is opaque, and covered with a deposit.

A serum against this disease has been sent out from the Department of Animal Hygiene of the Kaiser Wilhelm Institute, Bromberg. It is not yet possible to definitely estimate the value of this preparation.—(*Berliner Tier. Woch.*)

SCLEROSTOMIASIS IN FOALS.

Numerous observations upon this disease in foals were made by Prussian official veterinary surgeons in the year 1909. Apart from the aneurisms of the mesenteric arteries, post-mortem examination revealed manifold pathological processes of interest. Examples of these are—infarct in the cortical substance of the kidneys with hæmorrhage into the renal capsule, and the neighbouring sub-peritoneal connective tissue—embolic infarct in the spleen with rupture of the splenic capsule and hæmorrhage into the peritoneal cavity—rupture of the wall of the aneurism in the posterior mesenteric artery and hæmorrhage into the peritoneal cavity—thrombosis of both renal arteries.

At the post-mortem examination of one cachectic foal the colon and cæcum were found beset with numerous nodules the size of a nut, which contained a thick, greenish-coloured pus and, in each case, a specimen of the *Strongylus armatus*. A similar nodule was also found in the lung. The kidneys were affected with chronic inflammation in consequence of numerous embolisms, and in some places showed cicatricial contraction. The anterior mesenteric artery was filled with firm thrombotic masses containing numerous worms.—(*Berliner Tier. Woch.*)

DISTOMUM HEPATICUM IN A HORSE.

Heigenlechner, district veterinary surgeon of Holzkirchen, records (*Münchener Tier. Wochenschr.*) this unusual occurrence. A horse, which had shown no positive symptoms of any kind except anæmia, loss of appetite, and debility, was slaughtered on account of cachexia.

Post-mortem, the liver was found to be severely affected with *Distomum hepaticum*.—(*Berliner Tier. Woch.*)

W. R. C.

THE BIOLOGICAL ROLE OF SPERMOTOXIN IN FECUNDATION.—By M. R. TUSHNOV, M.V.Sc., Kazan, Russia.

Arguing from the present state of our knowledge of the mechanism of immunisation, I concluded that it would be possible to set up an immunity, not only against infection, but also against a normal physiological function such as fecundation. This opinion is supported by the well known physiological fact that women seldom become gravid during lactation, yet during this period menstruation frequently occurs, so that it appears that the failure of impregnation is due to some cause apart from anything in the uterus. Acting on this idea I formulated a theory that my procedure was to influence the ovum, to change the nature of its function without affecting the female system.

Many preventatives to pregnancy are known but few are efficient, so that the question has not only a scientific interest, but also a practical value.

I chose rabbits for experimentation, and my success with these animals leads me to suggest trials on the human subject, but this is a matter for further consideration and outside the immediate scope of these experiments.

I divided the rabbits into two groups, one for experiment, the other for control. Doe rabbits received intravenously, intra peritoneally or hypodermically, rabbit semen, just taken from a recently castrated testicle, dissolved in physiological solution 1:8000. After inoculation the does were repeatedly served by bucks, and all remained infertile from 5 to 18 months, after which they were killed and carefully examined.

I also took does 8 to 10 days pregnant, these went their full time but did not conceive again.

I made in all 27 experiments all of which were positive. Most careful autopsy revealed no change in any of the organs; the does did well, came in season, but did not conceive in spite of repeated coitus. The offspring of does inoculated after conception were healthy and fertile, but their dams were sterile.

The longest periods of sterility occurred in does inoculated several times, at intervals of some days, and considerably exceeded that of those inoculated with a single large dose. From further experiments, I believe that the spermatotoxin is not harmful to the ovum which develops normally, but the spermatozoon which penetrates it perishes.

My work is still incomplete, but it appears that I have solved the main question of voluntary artificial immunity against pregnancy, but still here is a whole series of problems to be solved. Undoubtedly the method of inoculation will be modified, but even in its present crude condition it is efficient. It may be taken as a fact that the oftener the system is inoculated the greater is the certainty of immunisation.

Conclusions :—Living fresh spermatozoa repeatedly inoculated into the blood stream or peritoneum or subcutaneous tissue in fixed doses at stated intervals, are capable of establishing in the

blood of such animals, spermatotoxins, poisonous substances capable of destroying spermatozoa.

Presence of these spermatotoxins—cytotoxins—brings about more or less long continued immunity against fecundation, in no way interfering with the health of the system, whose functions are unchanged and normal.

Possibly the immunity observed arises from a change in the chemiotaxis of the ovum in the negative, or on account of the death of the spermatozoon in the ovum caused by the presence of a substance toxic to the spermatozoon.

Translated from the author's original Russian by V. S. N. Foss into Esperanto, and from this by F. E. P.

[A CORRECTION.—Last week the translations on Animal Insurance were inadvertently initialed W. R. C. This should have been F. E. P. We regret the oversight.]

YORKSHIRE VETERINARY MEDICAL SOCIETY.

A meeting was held at the Hotel Metropole, Leeds, on Friday, April 26th, at 4 p.m. Mr. A. McCarnick, of Leeds, the president, occupied the chair, supported by the following members: Messrs. H. G. Bowes, Leeds, hon. treasurer; J. Clarkson, Garforth, hon. secretary; W. Crawford, H. Walpole, Whitley; J. W. Lazenby, Tadcaster; A. W. Noel Pillers, Liverpool; A. Ellison, Harrogate; J. A. Dixon, A. W. Mason, G. A. Barber, S. Wharam, G. E. Bowman, Leeds; J. Bell, Brighouse; F. W. S. Clough, W. Ackroyd, Halifax; S. Chambers, Kirkheaton; G. Whitehead, Batley; J. McKinna, Huddersfield; T. W. Pawlett, York; and H. M. Holland, Keighley. The visitors present were Messrs. E. Wilkie Davidson, Wetherby; G. H. Locke, Manchester; and Arnold Richardson, Liverpool.

The HON. SECRETARY read the notice convening the meeting. The minutes of the last meeting were taken as read on the motion of Mr. Mason, seconded by Mr. Ellison.

Messrs. G. H. LOCKE, of Manchester, and J. W. DAVIDSON, of Wetherby, were nominated to membership. Mr. CLARKSON said he was sorry to have to announce the resignation of Mr. Herbert Nixon, of Sheffield, who found it inconvenient to attend the meetings.

Letters or telegrams of regret for non-attendance were read from Messrs. Abson, Sampson, and Deighton.

The HON. SECRETARY read the report of the Council to the effect that Messrs. Bowes, McKinna, Mason, and the Hon. Secretary had been appointed to represent the Society on the Council of the National Association. Mr. Clarkson further reported that the long desired demonstrations had at last been arranged, Mr. Pillers having consented to give a series at the Hotel Metropole in the course of a few week's time, of which due notice would be given to each member.

THE "ONE PORTAL" SYSTEM.

Mr. ARNOLD RICHARDSON in moving, "That our one-portal system is prejudicial to the interests of our profession," made it quite clear at the outset of his remarks that he was speaking absolutely in an individual capacity—he was representing no one but himself.

In presuming to attack a principle that has been considered sacred for at least half a century, I know I am exposing myself to the ridicule of the entire profession. In every department of Veterinary politics,

save one, it has been assumed that there is room for a divergence of opinion—the merits of the present Bill, the principle of taxation, the School curriculum—upon these we may differ and still be considered entitled to the respect and confidence of our fellow-members. But to regard with indifference that which has been hitherto considered as the main line of defence, to be unconscious of the benefits, seen and unseen, which accrue to us as a result of our one-portal system—is to be guilty of a condition of mind for which there is no reasonable hope of forgiveness in this world or the next.

I entered the profession through this sacred arch some 20 to 25 years ago, and from that day to this I have never heard but one fellow-member openly admit that the system was anything but an unmixed blessing. The fact being we have grown up to consider our one-portal system an essential to our continued existence as a corporate body, and have ceased to permit ourselves even to entertain the possibility of any change. Such a position in regard to any subject is illogical. There are no such things as unalterable laws and fixed principles. Progress and change are inseparable.

Our attitude towards any existing institution should be one of unbiased inquiry. What is its object? How did it arise? Does it continue to exert a beneficial influence? If, upon inquiry, we fail to discover the supposed advantages but are rather led to believe the balance of influence is in the opposite direction, we are, however, bound to use what little influence we may possess to make such changes as may beneficially affect the profession and the public whose interests we are supposed to serve.

That is the position in which I find myself to-day. I fail to see any special advantage in retaining our one-portal system, and I hold that in many respects we should benefit if it were abandoned.

Let us take a bird's-eye view of our history.

Originally the work of Veterinary Surgeons was performed by anyone whose tastes ran in that direction, without any special training. Throughout time animal diseases have existed, and we may safely assume there was never a period in the history of our race when animal ailments were entirely ignored. From prehistoric times down to the present day the healing art as applied to the lower animals has been practised. Centuries B.C. there were hospitals for the treatment of the diseases of lower animals in the more ancient civilisations such as China, and probably elsewhere. But up to comparatively modern times no race of separated practitioners existed. The old Horse Leach and Cow Leach usually exercised their healing arts in conjunction with the business of farriery. By degrees the process of separation between these two occupations took place, until the practice of Veterinary medicine and surgery became a distinct profession and claimed the right to rank side by side with other learned professions. The process culminated in the granting of the Royal Charter in 1844. At that time the necessity of definitely restricting the mode of entry into the newly-fledged profession was essential. Hence the one portal.

But regulations which at the birth of a profession might be essential may become too restricting when the process of development becomes more mature. Trees require supports as saplings, but grow better without them when firmly rooted. Seventy years ago Veterinary education, in common with all other forms of education, was in its adolescent stage. University extension was then unknown, and barely anticipated. The changes which have taken place in regard to educational matters affecting every department of life during the last 50 years have been such as to compel us to-day to inquire whether we have availed ourselves of these changes to the extent we might, and made progress proportionately.

Progress and educational advancement are inseparable—a fact which we as a profession have unfortunately

overlooked. The modern educational movement which has been so pronounced during the last 25 years has developed on well-defined lines. The Educational Department has wisely co-ordinated our educational system, and determined that our Universities shall become increasingly the recognised centres of educational activity. The nation as a whole has accepted the principle as sound. Our Universities are the culminating point of our educational system. The various degrees of education—Elementary, Secondary, Higher, are definitely organised and co-ordinated. Our educational system is now a national one, and all the higher forms of education are incorporated within it—Theological, Medical, Legal, Dental Arts, Naval Construction, Engineering, etc.—every branch of educational activity finds its home in our University system—with what results? Every department of educational activity has benefitted enormously by the movement, and made progress just in proportion to the extent they have taken advantage of this educational expansion and thus secured recognition and support.

In the provincial universities particularly, the development in the direction of applied science, has been most remarkable.

But the veterinary profession has failed entirely to obtain any kind of support, and the cause is not far to seek. Our teaching institutions are practically private concerns, and the R.C.V.S.—the Corporate Body—has to all intents and purposes a separate existence. True it determines the nature of the curriculum and alone examines those who aspire to membership, but apart from these it has nothing whatever to do with the Colleges as such. As a result both the schools and the Royal College have failed to establish a claim to any outside financial assistance. One because of their semi-private character, and the other because it has no legitimate purpose to which it could apply an income. The fact is we are the subjects of a self-imposed isolation.

Hitherto the veterinary profession has been run on entirely selfish lines, and we have failed to realise that our profession is not a private monopoly but a public trust. When veterinary politics are under discussion speakers as a rule seldom touch upon anything except that which is calculated to affect the pockets or the position of the members. Our governing body, the Council, is verging on bankruptcy, and our profession is face to face with a crisis, and one of two courses must be quickly adopted—either a form of taxation to bolster up our antiquated one-portal system, or a policy of reconstruction and reform to bring ourselves into line with modern ideas and true educational principles.

Whether we care to confess it or not, the fact remains that we have not succeeded in obtaining that amount of State recognition that we think we are entitled to. The dividing line educationally between our profession and the sister profession is still too broad, and those who have its true welfare at heart should be prepared to face existing facts, and adopt a policy calculated to facilitate its intellectual and social advancement.

I believe that which stands in the way of our progress is our one-portal system.

Its abolition would benefit the profession as a whole. In the first place because we should gain in prestige through the closer educational association with other learned professions.

The educational equipment of a V.S. does not consist solely of the amount of information he acquires as a result of attendance at a course of lectures or clinics, but largely in those subtle and varied influences which are brought to bear upon him during his collegiate life. Our present system of isolation and detachment from the educational associations of university life are a social handicap. The reform of veterinary education must be on the line of raising the standard and bringing each teaching institution, if possible, into

touch with the local University, and the diploma to practise made equal to that of a university degree.

Secondly we should gain in social advancement. We may not care openly to confess it, but it is unfortunately true that as a profession socially we do not exercise the influence that the importance of our work deserves. The faults may not be all one side, and the reasons may not be such that one cares to discuss. But with a few honourable exceptions, we have not hitherto even associated ourselves very closely with the movements which have for their object the general, social, and moral advancement of our fellow subjects.

I am unwilling to admit our unfitness, and would rather attribute the cause to the narrow outlook fostered by our insular form of training. Our profession as a socio-political force is practically unknown. The absence of any such influence is a weakness to ourselves and a loss to the community of which we form a part.

I believe a closer association with the medical and other professions for educational and training purposes would facilitate a closer association in the main work of the future members of our profession—namely, the controlling and organising of the supply and distribution of animal foods and prevention of animal diseases. Further, I think as a profession we should ultimately gain enormously by the abolition of our one-portal system by the liberation of our profession from the narrow, self-centred form of control which the system makes inevitable.

Hitherto we have been controlled by a Council whose policy has been largely determined by selfish interests. Our rights have been enforced, our interests have been considered, abuses have been checked. Our Councillors have faithfully served the profession, and I do not wish to advance an adverse criticism. But the outlook of the Council has been limited by the horizon of the profession. The time has arrived when we can afford to widen our outlook. As a profession we are firmly established—we can safely abandon our defensive attitude, and, having leisure to look beyond the boundary of our own private interests, we can examine our relationship to the great community in which we live.

In doing so the first thing we should observe would be the disparity between the greatness of the State and the smallness of our profession. This pulsating mass of humanity we term "the State" has needs, has claims, which we have hitherto ignored. We have been so busy looking after our own interests that we have forgotten the rights of the community. Our Council has largely regarded the profession as a private monopoly. I would urge that we regard it as a public trust. The State has claims upon us which we are neglecting. We cry out loud enough for recognition and for the appointment of whole-time men to various positions in the interests of public health, but we have done practically nothing to equip ourselves for the positions we demand.

The fact is our system is at fault. The demands upon the Veterinary Surgeon of the future are greater than can be met by a Council of management as at present constituted. If we are to perform our duty to the State efficiently we must be willing to change our policy.

Our profession was founded and our teaching has been directed on the assumption that the main if not the sole duty of the Veterinary Surgeon was to perform the ordinary work of a physician and surgeon to the lower animals. This idea we have outlived, and the future of our profession will largely be concerned with preventive work and service in relation to public health. Our present system is too rigid. Every candidate for admission has to prepare himself to satisfy a board of examiners appointed by a Council whose outlook is narrow and whose liberty is restricted by law. The consequence being the issuing forth of members who

are not qualified to fill the appointments they claim the sole right to occupy.

Our only escape from this humiliating position is the abandonment of our one-portal system and the liberation of the profession from the cramping influence of a too rigid and inelastic system of control. Already the Universities are supplying in D.P.H. and D.V.H. that which is lacking in our educational outfit, and it is highly probable that in the near future public health appointments will be given only to those who have obtained this special qualification.

It is not to the credit of our governing body that this admittedly necessary additional qualification should have been initiated by an outside body. But it does prove that the Senate and Council of a University are more alive to public needs, and better able to meet those needs than our own Council. I am strongly of the opinion that a closer association between our existing schools and the Universities will be of immense benefit to both the schools and the profession as a whole; and if this closer association lead ultimately to the granting by each University having an affiliated Veterinary School of a degree or licence to practice, we as a profession would rather gain than lose.

The supposed advantages of the one-portal system vanish when examined without prejudice. The number of individuals entering the profession would not necessarily be increased, the standard of education would not be lowered—the Senate and Council of no existing University would be in danger of conferring a degree upon imperfectly trained men. Instead of the existing stereotyped system of instruction, preparing each student to satisfy one set of examiners—there would be a healthy rivalry between the teaching institutions, facilities for specialisation, the result of which would be the general raising of the whole standard of Veterinary education.

Not only would the profession as a whole gain by the abolition of our one-portal system, but the teaching institutions would reap an advantage. In the first place they would at once establish a claim for State recognition and State support. So long as we conduct our profession as a private monopoly it will be practically impossible for us to obtain State support or private patronage, either for the better equipment of our teaching institutions or for the purposes of scientific research. Grants and endowments are largely determined by custom. At the present time the Universities are the recognised centres for advanced education, and they receive both State and private support. But so long as we remain in "splendid isolation" we shall fail to obtain any substantial recognition in this form. Hitherto Veterinary education has not attracted the patronage which its importance deserves. This we all deplore. But have we not ourselves to blame?

Whether we agree with the principle or not, it is true that endowments for all forms of educational purposes are generally given with an amount of local and sentimental bias: and if we wish to enjoy the advantages which such endowments would give to our Colleges we must bring them into line with other departments of higher education, and affiliate them to the Universities, and be willing for such affiliation to carry with it the right of conferring a degree to practice. Our present system tends to become stereotyped, and progress apt to be checked.

The future of the Veterinary profession should not be regarded solely from the point of view of the existing practitioner, but also from the standpoint of the State in regard to public health. The training of the prospective Veterinary Surgeon has hitherto been directed almost entirely in the departments of Veterinary Medicine and Surgery, and matters concerning public health have been very inadequately taught.

In this respect we may have to entirely recast our

curriculum. Should this take place under existing conditions we should be simply turned from one rut into another. This we should endeavour to avoid. It has become almost essential to provide a dual qualification. One conferring the right to practice the art of Veterinary Medicine and Surgery, and the other a higher or special qualification to equip for public health appointments.

As a matter of fact this particular reform has already been anticipated and we are in the somewhat anomalous position of the R.C.V.S. granting a diploma to practice, but the higher and more advanced qualification being arranged and controlled by an outside body. This in itself proves that our system is at fault. Our Council was either bound down by regulations and unable to move in the matter, or insufficiently enlightened to take the initiative. If we as a profession are to keep well abreast of the educational needs of the times we must have greater liberty to expand, and power to adapt our methods to needs as they arise.

In matters of this kind the Council and Senate of a University being composed almost entirely of educational experts would be as well qualified to ensure the proper education of prospective Veterinary Surgeons as our Council as at present constituted. Further the affiliation of our Schools to the local Universities would tend towards economy in working, and also towards increased efficiency. Much of our course is practically identical with that of the Medical Course—Botany, Materia Medica, Histology, Zoology, Physiology, and Pathology—there is so much common ground that the course could be so arranged that Veterinary students could receive instruction in association with those taking another degree. The advantages of this would not be felt only during the student career but throughout life through association.

As to the supposed advantages of the one-portal system I am open to receive instruction, and probably many present will avail themselves of the opportunity of enlightening my ignorance. The present is an important epoch in the history of our profession.

That something must be done is evident to all. The alternative to the abolition of the one-portal is the system of taxation proposed under the new Bill. I believe the profession is prepared for a revolt against this new tax. It has only one object—at least it will accomplish only one object, and that is the continuance of the one portal. The advantages which those who are its advocates expect the profession to reap are purely visionary. When the Bill was submitted to the profession originally it contained clauses the objects of which were the stamping out of quackery and the non-professional castrator. In all the correspondence that appeared in our papers these two results of the passage of the new Bill were hailed as the herald of the dawning of a new day for every practitioner. Now these clauses are to be deleted. Votes for the Bill have been recorded, but the benefits have been withdrawn. If the Bill were submitted to the profession to-day without the original clauses it would be rejected. My chief objection to the Bill is that it places an income in the hands of a body of Councillors who have no power whatever to use it to the interests of the profession as a whole. It would lead to evils without any compensatory benefits. Any scheme which had as its object the strengthening of the teaching institution might ultimately benefit the profession. But the Council is so constituted and its powers so limited that no such income could be used wisely.

The one object which the supporters of the Bill emphasise is the approaching bankruptcy of the Royal College. I frankly confess that I regard our financial difficulties as a blessing in disguise. They will compel us to action. We have to choose between taxation and reform. Taxation to maintain an obsolete system, or

reform to bring ourselves into line educationally with other learned professions. Abolish the one portal and taxation becomes unnecessary.

I must apologise for having detained you so long, but in concluding allow me to thank you for your courtesy in permitting me to bring the matter before you, and for your kindness in giving me so sympathetic a hearing. I should be delighted if you would couple with your courtesy and kindness your unanimous support in voting for the resolution which it is my privilege to submit, "That in the opinion of this meeting our one-portal system is prejudicial to the interests of our profession."

After the resolution had been formally seconded,

Mr. J. A. DIXON said that every medical man who had discussed the one-portal system with him had expressed his admiration of it (hear, hear)—and had offered the opinion that his own profession would benefit by the adoption of such a system. Mr. Richardson had not established any case for the abandonment of the one-portal system. The many groups who practised medicine disregarded the letters attached to a man's name and simply asked, "Is he M.D.?" The other letters counted for nothing. Physiology of the domesticated animals was not identical with physiology of the human subject, which was highly specialised. When he was at College the lectures on physiology could practically be disregarded. Everything had to be learned from "Smith." Nowadays, when the veterinary profession was generally regarded as a decaying business by the public, it seemed to him that they were possessed of the entire sympathy of the world because they would soon be out of work. (Hear, hear). He did not think proper attention to the subject would be given by the Universities. He thought they should go in for better teaching, and not be so anxious to throw in their lot with medical men and dentists.

Most Universities were absolutely dominated by medical men. Most of the students were medical students, and more attention was paid to them, the rest being regarded as subordinate. Similar arguments to those of Mr. Richardson were brought forward when the late Sir Robert Boyce enumerated his points in a plea for the establishment of a Veterinary college. I didn't agree with him then and I don't now. The medical profession would say, "We have to teach you your own business," and there would be less recognition from the medical profession than at present. He agreed with Mr. Richardson that something should be done with regard to public health. It was high time that a separate degree was instituted to show to the public that Veterinary surgeons were educated in matters appertaining to the public health.

Mr. J. CLARKSON expressed appreciation of Mr. Richardson's courage in introducing something which was unpopular among the ordinary members. He thoroughly agreed with Mr. Richardson's simile concerning a sapling, but as a tree now fifty years old, their profession needed no such support as suggested. They had no suggestion that men were coming in at the back or side doors, or were squeezing into the profession. He thought the one-portal system ideal—there was no suggestion of one man being weaker than another. The system was absolutely unassailable, and it was, in addition, as Mr. Dixon had pointed out, the envy of the medical, and all other professions, that all the men should be equally qualified. He was extremely glad of Mr. Richardson's assertion that the notions in the paper were entirely his own ideas, as he thought perhaps Mr. Richardson's ideas were the result of an atmosphere or that he was a missionary of a school of thought that had evolved itself recently. (Hear, hear). He did not know whether or not he was entitled to any credit, but he did a large amount of work in connection with the

removal of the school from Edinburgh to Liverpool, and if he had thought that "this" was the result of "that." (Hear, hear) he would feel inclined to ask himself if he had, like Frankenstein, created a monster to destroy him. (Hear, hear.) The one-portal system was their most cherished possession, and he did not think Mr. Richardson had addressed a single argument against it. (Hear, hear.)

Mr. H. G. BOWES prefaced his remarks with the observation that whatever the movement might lack, it certainly did not suffer for want of eloquence on the part of its proposer. He admitted that there was room for a good deal of improvement in the teaching, and particularly in the direction of preparing men for public health work. The old type of school was probably the best school in the world for bringing out practitioners. Some of the old teachers of the old practical school brought out better practitioners than would be evolved under the new methods. Nothing Mr. Richardson had said was an argument in favour of abolishing the system. The fact that the schools might require improving could not be laid to the charge of the one-portal system, which, as Mr. Clarkson had said, was one of their most cherished belongings.

He had never yet spoken to any of his medical friends without their expressing admiration for the one-portal system, and wishing that they could have the same thing in their profession. In Germany, perhaps the most up-to-date State in the world educationally, every medical man had to pass a State examination to licence him to practice, and no matter what his University degree he must also satisfy the State authorities.

The mixing of students was highly desirable, and he would be pleased to see all their schools affiliated with the University; and he would also be very pleased to see the universities giving University degrees in Veterinary pathology. Still he would retain the diploma as a licence to practice. Uniformity strongly appealed to him. No examination would turn out uniform men, however uniform the examination might be. Whatever system they had there would be men who would acquire knowledge in different degrees, and an examination could only do its best—it was faulty—but it was the best devised scheme up to the present. They must test a man's knowledge, and a University examination would be no better than the examination as conducted at present; it would not be uniform. (Hear, hear.) They should retain their one-portal system where licencing was concerned. The mixing of students one with the other was an excellent thing. It rubbed off the corners. Veterinary surgeons were, he admitted, too insular, or had been in the past. If they looked at the medical schools they must bear in mind that though they were all connected with the universities there was a separate staff and building for the medical school, as in Leeds for instance, and in almost every other town. The medical school, although a part of the University, was a separate school, and if there was a Veterinary Department the students would still be much to themselves.

As to the suggestion for the joint study of certain subjects, it was impracticable and unsatisfactory for one professor to teach students belonging to different branches of the same profession. They must specialise to the students in the Veterinary school. He was very much opposed to the resolution.

Mr. ACKROYD (Halifax) said that Mr. Richardson was on the wrong horse so far as most members of the profession were concerned. He believed that if Mr. Richardson were carefully to go over the reasons he had given in his paper, he would find that they were not leading him to an alteration of the one-portal system at all, but simply to the association of their students with other students. Mr. Richardson had not pointed out any disadvantages of the one-portal system.

All his arguments led, not to the abolition of the system, but to an extension of their educational system, which would bring them into touch with the universities; and he was not quite so sure that they would share some of the rich things that the medical profession enjoyed, even if they did join the universities. What advantage had a student at Liverpool College over, say a student at Dick's College in so far as professional education went? The thing they wanted, it seemed to him, was a better system of education, perhaps a wider outlook, and he thought they ought to stick to the one-portal system through thick and thin. In fact he did not think Mr. Richardson's arguments tended to support his resolution, but rather they tended to support a wider and better system of education only.

Mr. MCKINNA agreed that to get the hall-mark of a university would be beneficial. Did not Mr. Richardson think that that would meet a great deal of the feeling with regard to the higher status of the profession? "Our social standing," he declared, "depends mainly upon our individual selves." He never felt proud of his profession until he visited Germany where all the schools were Government-aided and had an equipment second to none. Medical men envied the one-portal system, and wished that they had a similar system instead of having so many back doors into their profession. Unfortunately the public did not enquire closely as to a medical man's qualifications.

Mr. WHARHAM said they were bound down by many Acts of Parliament which up to the present had hindered their progress. But, for all that they were in his opinion progressing slowly, and as regarded the one-portal system, there was no doubt that many other bodies would have to adopt it. They were in no sense very far behind any foreign country, and in foreign countries State aid was received while no grants were received here. Mr. Richardson contended that the abolition of the one-portal system would result in a larger income to the College, but how that would be brought about he failed to see.

With regard to economies of the school, he thought something could be done by having a central examination. His idea of the one portal system was to have one centre for the holding of all examinations. He believed that they were turning out a very much better class of man than that they had ever done before and they compared very well indeed with students of any other profession, and were quite equal to the work that that they were called upon to do. Another argument in favour of the abolition of the one-portal system was that it would increase their social standing. That standing, he might say, was gradually becoming better, and was improving quite as rapidly as that of any other profession.

Mr. RICHARDSON, in reply, again emphasised the fact that he had spoken entirely for himself, and in view of the feeling of the meeting he should have great pleasure in withdrawing the resolution. In reply to the various speakers he pointed out that it would be a great advantage to the veterinary profession if they were incorporated with the university system. He should like their diploma to practice to be raised to the standard of the university degree for the universities ranked higher educationally than the veterinary colleges did. (Cries of "No, no.") The Royal College of Veterinary Surgeons did not rank as high educationally as those various departments of science that were incorporated with the university system. (Voice: The standard of medical examinations is the same.) "If we were incorporated," Mr. Richardson went on to say, "we should have the equivalent in the veterinary profession of the M.D."

Mr. Clarkson, he said, thought the one portal system was an ideal one because it stopped all back door entries. He suggested that there should be a national inspector whose business it would be to see that the

form of teaching was kept up to a proper standard, so that unqualified men should not be put forward in that country. They were all agreed that it was absolutely essential that their standard of education should be improved. The teaching, and the method of teaching, should be improved. He had been asked if he could give any opinion as to the work which had been done in connection with the Liverpool University, and he should like to say that certain things had happened which had rather retarded matters. Sir R. Boyce, for instance, had died, and that had interfered greatly with the progress of the school. He would withdraw his resolution.

Mr. CLARKSON remarked that he had a distinct recollection some years ago of a resolution being withdrawn. It was sometimes necessary not to be too kind, and it was folly sometimes to be a little weak. He thought that they regretted their withdrawal on that occasion.

Mr. RICHARDSON: I quite agree, but my idea in withdrawing was because of my seconder.

The resolution was then put to the meeting and was lost, only Mr. Richardson voting for it.

THE CONTROL OF TUBERCULIN.

Mr. H. G. BOWES, Leeds, moved: "That in the opinion of the Yorkshire Veterinary Medical Society the time has arrived when the Government should take steps to control the use and prevent the abuse of Tuberculin for cattle."

Mr. BOWES said that our time was getting on, and he did not wish the subject, which was very important, to be hurriedly considered, he would withdraw the resolution and would bring it forward at another meeting.

Mr. McKINNA proposed that a hearty vote of thanks be given to Mr. Richardson for his address, and he also thought that Mr. Clarkson should be congratulated on inducing him to address the gathering. It was courageous of Mr. Richardson to introduce the subject.

Other speakers also referred in eulogistic terms of Mr. Richardson's remarks.

Mr. T. PRATT, of Ripon, then presented a very valuable collection of pathological specimens and antique and other horse shoes to the Society, of which he was one of the founders.

Mr. MASON, in thanking Mr. Pratt for his kind gift, expressed the hope that they would have the pleasure of seeing Mr. Pratt at their gatherings for many years to come. It was, he said, the Jubilee of the Society next year, and he thought it would be a happy suggestion if Mr. Pratt could be prevailed upon to accept the presidency. He could assure Mr. Pratt that the Standing Council would stand by him and give him as little trouble as possible in the working of the Society.

Mr. PRATT, referring to the vote of thanks, said he would not care to accept the duties of office without consideration. He was a man who did not court publicity.

At the conclusion of the meeting the members and visitors were entertained to tea at the invitation of the Society.

WESTERN COUNTIES

VETERINARY MEDICAL ASSOCIATION.

The 29th annual meeting was held at the Royal Clarence Hotel, Exeter, on Thursday, 25th April, when those present included Messrs. P. G. Bond, Plymouth; F. P. Bennett, Paignton; G. H. Elder, Taunton; G. H. Gibbings, Tavistock; G. D. Lansley, Axminster; R. E. L. Penhale, Torrington; and E. J. Thorburn, Crewkerne.

A telegram from the President (Mr. Whitmore),

regretting his inability to be present having been received, Mr. Elder was voted to the chair.

Letters, apologising for absence, were also received from Prof. Hobday, Messrs. Wm. Ascott (Hon. Sec.), W. H. Bloye, T. Olver, Wm. Penhale, W. P. Stableforth and J. Toms.

The minutes of the last meeting were read and confirmed.

CORRESPONDENCE.

Castrator, Swine Fever Order. A further communication on this matter was read, and it was resolved to allow the correspondence to lie on the table.

Affiliation. A letter from Prof. Gofton was read and discussed, and it was resolved, on the motion of Mr. Gibbings, seconded by Mr. Penhale, "That this Association become affiliated to the National Veterinary Association, and that Messrs. John Dunstan, of Liskeard, G. H. Elder, of Taunton, and the Hon. Sec. for the time being be elected representatives to serve on the Council.

Mr. Shipley wrote thanking the Association for the donation of five guineas to the Victoria Veterinary Benevolent Fund.

Letters from the Cornwall County Council on the subject of Local Taxation Licenses for Armorial Bearings were read, but as a test case had already been decided, it was deemed that no further action was necessary.

Attention was drawn to the receipt of complaints as to the delay in obtaining the Association's instruments, the explanation given being that it often happened that several members applied at once, and the recent restricted railway service prevented prompt return.

The HON. TREAS. (Mr. Bond) presented his annual report and balance sheet, showing a credit balance of £18 13s. It was resolved that the same be approved and adopted.

ELECTION OF OFFICERS.

President. Mr. R. J. COLLINGS, of Exeter, was unanimously elected President for the ensuing year. Mr. Bond, in moving his election, mentioned that Mr. Collings had for many years taken a deep interest in the work of the Association, as also had his father before him, who was one of its founders and first hon. secretary.

Vice-Presidents.—Messrs. H. E. WHITEMORE, C. H. GOLLEDGE, F. T. HARVEY, and R. E. L. PENHALE were elected.

Hon. Treasurer.—Mr. P. G. BOND was re-elected, and thanked for his past services to the Association. Mr. Bond suitably acknowledged.

A letter from Mr. Wm. Ascott stating that through stress of private business he desired to be freed from the duties of Hon. Secretary for two or three years at least, after which he would, if so wished, resume them, was read.

The CHAIRMAN paid a high tribute to the interest Mr. Ascott always took in the welfare of the Association and to the valuable services he had rendered as Hon. Secretary for many years, and expressed deep regret at his decision.

It was unanimously resolved, on the motion of Mr. Bond, seconded by Mr. Penhale, "That Mr. Ascott be asked to reconsider the matter, and to continue his services for another year."

Correspondence between Prof. Stockman and a Mr. Alf. Mansell, of Shrewsbury, on the subject of "Suppurative mammitis" sent to the meeting by Mr. Stableforth, was read, but no action was taken.

An interesting discussion on Prof. Hobday's improved operation for "Roaring" here ensued, all agreeing that up to the present the operation was not attended with sufficient beneficial results to justify country practitioners to unreservedly recommend its performance.

The CHAIRMAN proposed that the best thanks of the Association be conveyed to Prof. Hobday for his demonstration at Plymouth, and also to Mr. Bond for the use of his yard, and his kind hospitality on that occasion. This was seconded by Mr. Gibbings, and unanimously agreed to.

A vote of thanks to Mr. Elder for presiding concluded the meeting.

WM. ASCOTT, *Hon. Sec.*

Alleged Fraudulent Conversion—Lymm Farmer's Claim.

At the Manchester County Court on Tuesday, May 7th, an extraordinary case came on for hearing before his Honour Judge Mellor, K.C.

Alfred Edwin Darbyshire, of Tanyard Farm, Lymm, claimed from John Kay and Co., Ltd., carriers, Gorton, the return of a horse or its value, £40, and £10 damages for detention or alternatively damages for the conversion thereof by the defendants. The defendants, on the ground that they bought the horse under a bona-fide contract, claimed an indemnity from John Russell, Veterinary Surgeon, of Manchester, and on similar grounds Russell claimed an indemnity from Joseph Taylor, horse dealer, of 6, Willis Street, Warrington.

Mr. F. B. Merriman (instructed by Messrs. Fowden, Newton and Valey, Manchester), appeared for the plaintiff. Mr. S. Horowitz (instructed by Messrs. H. and W. Page, Manchester), appeared for Messrs. Kay and Co., Ltd.; Mr. T. G. R. Delm (instructed by Mr. Josiah Smith, Manchester), appeared for Russell; and Mr. E. C. Burgis (instructed by Mr. Thomas S. Steel, Warrington), appeared for Taylor.

On the application of Mr. Burgis, Taylor was substituted as defendant and counsel stated that he would appear for all the defendants.

In opening the case for the plaintiff, Mr. Merriman stated that on the 5th August, 1910, the plaintiff turned out a horse to grass in one of his fields at Lymm, and next morning he found it had disappeared. The matter was placed in the hands of the police. In December last the plaintiff's brother saw the animal in Whitworth Street, Manchester, in a lorry belonging to Messrs. Kay and Co., and immediately recognised it as the long-lost property of his brother. The plaintiff was informed, and along with his brother and father they went to Manchester and identified the horse as the plaintiff's property.

Plaintiff gave evidence bearing out his counsel's statement, and produced a photo of the horse stolen from his farm.

Cross-examined by Mr. Burgis: He identified the horse by its four white legs, white face, and white patches on its back. In 1908 its near front hoof was run over by a lorry, and the marks were now on the hoof. It was a bay horse. There were very many horses with white patches on the back. He agreed that when a horse had had a sore back and the hair grew again it was white. Many horses had sore backs. He did not attach much importance to the fact that his horse had white patches on its back. He was certain the horse was his. It would lie down when in the stable at night. There was no difference in the horse's behaviour whether it had a bit in its mouth or had a halter on.

Plaintiff's brother and father and a teamsman also corroborated. They were certain the horse was the one which disappeared from the plaintiff's farm.

Mr. Munro, Veterinary surgeon, Altrincham, stated that in April, 1908, he attended to the near front hoof of the horse, which had been run over by the wheel of a lorry. The marks were now on the hoof. He had no doubt about the horse being the one in question.

Cross-examined: He denied that the marks on the hoof were caused by a diseased bone. He did not agree that the hoof was nothing different to the other hoofs.

Mr. Burgis, addressing his Honour, stated that he would prove the history of the horse since 1907. He would call the different gentlemen through whose hands it had passed since that time. At the time it was alleged that the plaintiff's horse was stolen this horse, now in the possession of the defendants, was actually working on a farm in Lincolnshire. He would also prove that the horse put out its tongue and continuously kept it out immediately the bit was put into its mouth, and that so soon as the bit was taken out its tongue went in; a fact which the plaintiff had not spoken of. Further, this horse was never seen lying down in the stable, which the plaintiff swore he had seen his horse do.

Mr. T. M. Wilmot, farmer, Newton-on-Trent, stated that the horse was knocked down to him in the Lincoln Auction Mart in April, 1907. He sold it a few days afterwards to Mr. Brown. Towards the end of March, 1911, Taylor bought some horses in Lincoln and at the latter's request he arranged to buy two or three more for him, and despatch them along with the others Taylor had bought, so as to make up a truck-load. He bought two horses from Mr. Russon, of South Carlton, Lincolnshire, one of which was the horse he had sold in 1907 to Mr. Brown and despatched to Taylor, at Warrington. He had since identified the horse in Manchester. He could have picked it out of a hundred.

Mr. Robert Brown, farmer, Cherrywillingham, Lincolnshire, stated that in 1907 he bought the horse from Wilmot, and had it constantly in use on his farm until February, 1911, when he sold it to Mr. Russon. He identified it by the fact that it always had its tongue out when it had the bit in its mouth. He could further identify it by its general markings, by its "cow-legged" walk and also by the fact that it had a black spot in front of the hip bone on the near side.

Cross-examined: There was nothing remarkable about the marks on the hoof. He did not agree that the photo produced was that of the horse in the possession of defendant.

Mr. Stephen Wright, waggoner, in the employ of Mr. Brown, corroborated. The horse did not lie down in the stable at night.

Henry Russon, farmer, Saxilby, proved that he purchased the horse from Brown in February, 1911, and sold it the following April to Wilmot. He identified it by the fact that it always had its tongue out when in a bridle, height, colour, markings, etc.

Mr. Fred Russon and Mr. J. W. Hall, waggoner, corroborated.

Joseph Taylor said he was a horse dealer at Warrington. He received the horse from Wilmot. He kept it a month and then sent it to Bradshaw's Repository, Whitworth Street, Manchester, where he sold it to John Russell, veterinary surgeon.

John Duffy, foreman in the employ of Taylor, stated that he unloaded the horse from Lincolnshire. He saw it in the stable at Warrington frequently during the month Taylor had it. He subsequently took it to Bradshaw's Repository.

Thomas Jubb, carter, in the employ of Messrs. Kay and Co., stated that the horse always had its tongue out when in a bridle. It never lay down in the stable.

John Russell, veterinary surgeon, Manchester, stated that he bought the horse from Taylor and sold it to Messrs. Kay and Co., and Mr. Howarth, manager for Messrs. Kay and Co. proved that he bought the horse from Russell.

Mr. J. B. Wolstenholme, veterinary surgeon, of Manchester, stated that in his opinion the marks on the hoof were the result of a diseased bone. There was

nothing extraordinary about the hoof and he had seen many horse's hoofs the same.

In answer to His Honour, Mr. Burgis stated that the horse was outside the Court.

The horse was then brought into the paved corridor of the Court and inspected by the Judge in the presence of representatives of either side.

Mr. Burgis pressed his "mistaken identity" plea and urged that the onus was upon the plaintiff to prove beyond all doubt that the horse was his. This he had not done, as there was certainly doubt about the cause of the marks on the hoof, on which plaintiff laid such great emphasis.

His Honour said he had never had a case in which so many respectable witnesses had been called on each side, and that made the case all the more difficult for him to deal with. Having seen the horse he agreed with the witnesses from Lincolnshire, that it did not agree with the photo of the animal lost by the plaintiff. He was met with a direct conflict of evidence. He saw the black spot spoken of by Mr. Brown and certainly the horse had its tongue out, and immediately the bit was taken out the tongue went in. As regards the hoof, he found very similar marks on the other front hoof of the horse, and he had come to the conclusion that the plaintiff had not discharged the onus upon him and there would, therefore, be judgment for the defendants with costs.—*Warrington Guardian*.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, May 4.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Vet.-Maj. J. A. Meredith, retired pay (late 1st Life Guards), is appointed Administrative Veterinary Officer of a Territorial Division, and is granted the temporary rank of Lieut.-Col. in the Territorial Force, whilst holding the appointment. Dated May 15.

P. R. A. Thrale to be Lieut. Dated May 15.

Gunner E. S. Martin, from the H.A.C., to be Lieut. Dated May 15.

May 10.

SPECIAL RESERVE OF OFFICERS.

ARMY VETERINARY CORPS.

J. J. Keppel (late Cadet Corps, Royal Vet. Coll. of Ireland, O.T.C.) to be Lieut. (on probation). Dated May 11.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Maj. C. B. M. Harris, D.S.O., retired pay, A.V.C., is appointed Administrative Veterinary Officer of a Territorial Division, and is granted the temporary rank of Lieut.-Col. in the T.F., whilst holding the appointment. Dated May 11.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered. *
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended May 11	18		19				5	5	39	101	3	63	1038
Corresponding week in {	1911		43				2	4			1	55	809
	1910	31	44				5	14			3	36	459
	1909	35	35				12	39			21	46	395
Total for 19 weeks, 1912	424		475				66	144	1843	4178	156	1262	16055
Corresponding period in {	1911	375	464		1	18	78	225			294	863	9401
	1910	587	724				140	340			305	446	3943
	1909	552	740				234	622			433	606	5614

Board of Agriculture and Fisheries, May 14, 1912.

† Counties affected, animals attacked: Derby 1, London 4.

IRELAND. Week ended May 11	...	...	...	...	...	...	Outbreaks	4	7	114
	...	...	...	...	...	...	3			
Corresponding Week in {	1911	...	1	1	...	...	1	1	...	5
	1910	...	...	...	...	...	1	12	2	12
	1909	...	...	...	...	...	4	2	2	26
Total for 19 weeks, 1912	...	1	1	...	...	...	37	248	97	928
Corresponding period in {	1911	...	5	5	...	...	38	228	47	812
	1910	...	4	6	...	...	33	312	31	819
	1909	...	2	2	...	...	41	264	14	143

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 13, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

R.C.V.S. Annual General Meeting.

Members residing in Great Britain who propose to attend the Annual General Meeting at Dublin, on 5th June, are requested to communicate immediately with the Secretary at 10 Red Lion Square, London, W.C., in order that arrangements may, if possible, be made for cheap bookings.

Personal.

BOWES.—On the 14th May, at Longfield, Headingley, Leeds, the wife of H. G. Bowes, F.R.C.V.S. of a daughter.

CORRESPONDENCE.**TREATMENT VERSUS EXPERIMENT.**

Sir,

"Scrutator" has given us valuable food for reflection. In considering any method of treatment it is well to look back and to ascertain if any real advancement has been made. We must all admit that Mr. Pillers has drawn our attention to some valuable points in connection with the successful treatment of canker, more especially as regards the technique of applying pressure. He is entitled to due credit for this—in fact far more so than if he had directed his energies to ascertaining the pathology of the disease.

In reality, very little credit is given to anyone who sets out to discover successful treatment for the common diseases met with in every-day practice. But let someone—especially if he sports the title of "Professor"—announce to the profession that he has discovered some micro-organism as the causal factor in a disease, and he is instantly looked up to as a "Sir Oracle." And, if the disease be one which is seldom or never met with in the British Isles, so much the better. It does not pay, nor is it considered fashionable to trouble one's head about common diseases, no matter how serious or fatal they may be. Take, for example, "milk fever." Successful treatment was discovered for it by a practitioner, and this discovery has proved of far greater importance to the owners of stock than any amount of laboratory experiments or work carried out by the manufacturers of fancy names for imaginary microbes. Yet Schmidt by no means received due recognition in Great Britain. Had he brought forward some special bacillus and filled pages of professional journals with a description of its morphology, etc., but omitted to trouble about the treatment, no doubt he would have been lionized, and would have received due attention from the hero-worshippers.

It is comforting to think that we have advanced in the diagnosis and treatment of common affections in the present day, but is this advancement real or imaginary? If we consult the older authors and compare their views with those of modern authorities, we find that, as pointed out by "Scrutator," there is little if any advancement made in connection with many diseases. No doubt in the present day theories are put forward in greater profusion, but there is a tendency to revert to the older methods.

Take, for example, the disease so-called "colic." Do we know anything more concerning it than Percivall or his contemporaries? Fads in the treatment of the conditions included under the term we are familiar with, but we are reverting to the practice of the older authors in prescribing aloes and avoiding opiates. Even with the possession of such agents as Eserine, Arecoline, and Barium chloride the time-honoured Aloes is still largely employed.

Some, indeed, pin their faith to the former mentioned agents, and prescribe them in every case as routine treatment, the therapeutical dogma being that if the case be a curable one, the treatment will prove successful, if incurable then the agents will hasten the fatal termination. Is this advancement on the old-time treatment? Does it require skill? Instruct a groom how to administer a hypodermic injection and he can do as much for the case as a qualified

man—if the above dogma be considered correct and rational.

It would prove of distinct benefit to the profession if more practitioners followed the example of Mr. Pillers and devoted attention to improved methods of treatment of common diseases. We care not whether the origin of the treatment be old or new, so long as it proves successful. And what we require is that the treatment, as proved by actual practice, should be superior in its results to those generally employed.

Investigation of this kind should be encouraged, and it is of equal, if not of more importance than the work of the bacteriologist, so far as ordinary practice is concerned. What does the owner of an animal care about abstruse theories as to the causation of a disease, if we are unable to carry out successful treatment?

There is far too great a tendency for practitioners in the present day to avoid giving the results of their experience. The reason is not far to seek. They receive little encouragement, and anything they bring forward is, of course, "well-known for years," according to the Solomons of the profession. Strange however it is, that these very cautious critics seldom or never attempt to do anything original themselves. And if they do happen to possess any special knowledge on a matter of importance, they carefully keep it secret, and assume an air of superiority while endeavouring to pour sarcasm on those who attempt to improve our clinical medicine and surgery.—Yours, etc.

"DIOGENES."

PARTURITION CASES IN MARES.

Sir,

Anything written on this subject from a practical point of view is always welcomed by every practitioner who is frequently required to attend these cases by himself, often far from home and without the necessary appliances handy. On careful perusal of Mr. McTurk's article, what he advances as to when embryotomy should be employed is nothing new, as it will be noticed in only one instance does he tell us how long the mare had been in labour, although we all know from experience that we scarcely ever see a patient when showing first signs of foaling.

As a rule when we arrive on the scene things are in such a state that ten or fifteen seconds are ample time to make our minds up, as to the very tough work ahead in severing the different parts of the foal. These cases of course are where the foal is firmly wedged in the passage with the head or legs outside the vulva and the parts greatly swollen. Where there is room, and the mare not having been long in labour with a mal-presentation preventing the foal coming forward into the passage, I should be sorry indeed to make my mind up in such a short time as the ten or fifteen minutes advised by Mr. McTurk. In many cases we are called to the foal is alive, remaining so for a long time, and while there is a living foal every device should be tried before resorting to the knife. "Make haste slowly" should ever be the watchword, as undoubtedly the best results are obtained, by deciding on your procedure and carrying it out despite many distracting remarks from outsiders. No hard and fast line can ever be adopted in these cases, everything depending so much on the conditions encountered in each individual case.—Yours faithfully,

J. KERR-CALDERWOOD, M.R.C.V.S.

Clitheroe, Lancashire.

THE WIDER QUESTION.

Sir,

In your issue of May 4th appeared the abstract of a report by Mr. J. A. Gilruth, and a reprint of a letter by Mr. C. J. Richardson. Is not the one an almost sufficient commentary on the other? Mr. Richardson has, perhaps unconsciously, touched upon a large question. Twenty years ago his remarks might have held weight. To-day the question is a much wider one and requires a much more capable handling. To-day the Veterinary profession has to produce men capable of filling positions under the Board of Agriculture, in the Army Veterinary Service, and in municipalities, which very, very few graduates of thirty years back could take

up; and with this it has also to provide men who are to take the rough work of country practice which, although much of a better kind has been added, still carries the elemental work of the "Ferrier" and the Cow-leech. Apparently Mr. Richardson would pull down professional attainments to their level, for he treats us to some irresponsible arguments of the old style "practical man." It is but a one-eyed way of looking at the matter. Many men, and almost all women, usually consider such questions only from a wholly personal point of view. Their only possible is, "What is this going to do for ME?" Doubtless if we could hear the opinion of the prospective Public Health official it would be a clamant call for University degrees, or a selection of letters after his name. He would sacrifice to his own conceit and selfishness that portion of the duty of the profession to the community which does not happen to line with his own professional proclivities. And agriculture—the one industry which cannot be safely disregarded by any civilised nation which desires to live—would receive as little consideration from him as the higher branch of the profession gets at the hands of such men as Mr. Richardson.—Yours faithfully,

COM. SOUTHTON.

UNQUALIFIED ASSISTANTS.

Sir,

Recent correspondence on this subject has interested me and led me to hold forth my views. To my mind one reason why there are so many unqualified assistants is apparent, and it is this—that no qualified ones can be got to take many of these positions.

A very short experience as an assistant in a busy country practice (a practice which could be still more developed by a man of gentlemanly demeanour) in the South-East of Scotland has led me to believe that no self-respecting graduate would perform the duties that some practitioners expect of their assistants. To give you an idea—in this practice to which I refer, the only mode of conveyance provided for the assistant was a secondhand and well-worn bicycle, and an undersized pony, the latter moulded not on the most ideal pattern, being the unfortunate possessor of two excellently developed spavins, a ewe neck, and consequently a well-marked tendency to star-gazing—a pleasant hack with a probang slung across your shoulder and two quart bottles of mange dressing in your pockets, or, as was more generally the case, a tooth rasp, mouth gag, two 12oz. bottles and a 1lb. cleansing drink. Thus mounted you were sent forth to perform your noble duties and minister to the wants of the dumb, equipped more after the manner of a plumber's "mate" than a veterinary surgeon's assistant. Moreover, you were expected to get over perhaps 30 miles, make five or six calls, and please your client, your patient, and your principal, satisfy yourself, and be back in an incredibly short space of time—to "mitch" was an awful crime. Home returning rarely the groom was to meet you, so you had to attend to the comfort of your weary and decrepit steed, and even should the stable boy be seen coming to your assistance he would often be promptly dispatched on another errand. This saddling and unsaddling process was considered part of the assistant's sphere of duties.

The assistant's evenings were busily occupied in the scientific occupation of bottle-washing, dusting the pharmacy, oiling hobbles, cleaning slings, etc., etc. Market day in the town was a busy one for the assistant also; he was expected to deliver various and sundry parcels of medicine to the different clients cars standing at the many hotels and livery stables. Another of the various duties that this practitioner expected was to run on household messages. Across a table frequently would be flung a pile of correspondence with the short demand, "paust them lethers"—and no more.

On one unfortunate occasion that we met in consultation regarding a most unusual case, his language towards me in the presence of numerous stable servants was of the most obscene and degrading imaginable, and his accusations were that I had made a wrong diagnosis, and employed improper treatment. Such was not the case—as events proved; I was

absolutely right, he was absolutely wrong; and a sneaking apology stole along. Now, is there any wonder that the majority of the general public have no respect for the profession or its members? Is there any wonder that unqualified men are employed in so many cases? No. Would any self-respecting graduate come to perform the various duties under the various circumstances I have outlined? No. In conclusion: Innocent graduates beware! Know thyself—and thy employer also.

"FINSEN."

Sir,

Mr. Hoare's remarks in your last issue are very interesting and much to the point. However, the matter he touches upon has a rather ancient history. Ever since the foundation of the first veterinary school (in Lyons in 1761) a similar controversy has from time to time been going on. Even the great Lafosse, who never graduated from any veterinary school for the simple reason there were none in existence in his early career, criticised the erroneous or imperfect teachings of the College professors and the incompetency of the young veterinary surgeon just leaving the schools. Similar criticisms have been hurled, also from time to time, at the insufficiency of teaching and the lack of practical experience of young practitioners in this country since the foundation of the Royal Veterinary College in 1791. We can indeed go back further than the date of the establishment of the first veterinary school, and read in some of the musty and worm-eaten old tomes and find authors who condemned their contemporaries for lacking practical experience, being quacks and wanting in knowledge of their business. And no doubt similar bickerings will continue for all time.

Though a school may be ever so well equipped as is possible under conditions of situation, competency of staff, sufficiency of funds and suitable apparatus, it can never make students practical men; it can only give them general principles and some living examples and post-mortem specimens to illustrate the text. But at the same time, a teaching institution should not lack the sense of proportion and devote more time to bacteriology and physiology, which appear to be constantly changing ground, than to clinical medicine and clinical surgery, which rarely change yet enable the student to picture in his mind the situation and appearance of a disease, the course it runs, the treatment adopted, and the termination of the case.

If the classical and often stereotyped lectures were abolished and the principles and practice of medicine or surgery taught in the stable, in the yard, or on the operating bed much time would be saved and great benefit on the student bestowed. The knowledge obtained through the eye and hand is more lasting and better retained than that taken in by an often inattentive ear. This plan of teaching medicine in the ward rather than in the lecture theatre was suggested and adopted by Sir William Osler, Regius Professor of Medicine at Oxford, when at the Johns Hopkins University Medical School. Of course even this system of instruction should be supplemented in our branch of medicine by the practical experience to be obtained only in the practice of a general country practitioner.

The most essential knowledge the average student of today requires is that of the common or garden diseases of cattle, sheep, and pigs; normal and abnormal parturition, and that generally possessed by the farmer, stableman, cowman, shepherd, or pigman. This the schools cannot and never can impart as now situated. As it is at the present time too much attention is given to endeavouring to cram into the often unassimilative mind of the student those diseases which the majority of practitioners have never seen and are not likely to see. The future town practitioner, Colonial, Board of Agriculture, or Municipal candidate, although in the minority are better catered for than the future country practitioner, who is in the majority and of much more importance to the community at large than all the rest put together.

Speaking from many years actual experience in various parts of England, I am of opinion the common or everyday ailments or disorders of farm animals are the most

important, but they are usually passed over by the teacher inexperienced in them as superfluous. If a census could be taken of the mortality of domesticated animals in Great Britain it would probably show that quite nine-tenths of the total arose from what is regarded as common ailments. Therefore it seems to me that greater attention should be given in teaching the commoner maladies.

Assuming the R.C.V.S. is going to do away with unqualified assistants or unqualified practitioners, is the public going to be better served by the employment of inexperienced or unskilful, although legally qualified assistants?

I am informed that even now unqualified practitioners but experienced and often commonsense men are thriving in country districts that cannot be held by duly qualified men, in consequence of their lacking practical experience.

Unless the R.C.V.S. is going to see that before a student obtains his diploma he is really qualified to practise the art and science of veterinary medicine and surgery it will be failing in its duty towards the public, and therefore cannot expect the public to appreciate a certain class of man it is turning out.

A farmer, dairyman, pigowner or flockmaster will not care one jot about veterinary science if its practitioners cannot save his animals when they should be restored to usefulness. He will prefer the handy man or unqualified practitioner without a scintilla of science or the least certification. He looks at veterinary services from his point of view—a commercial, and not an academic, one. He will leave the academic aspect to the garret philosopher, misanthrope, churl, or crank. Can one blame him?

But while advancing this, I do not consider that one should expect too much of a recently qualified man; at least not as much as from a practitioner of 30 years' standing or experience or study. Some critics do not take into consideration, when comparing their many years experience with that of the recent graduate, that they were once young and stupid. Probably they are so ignorant that they are ignorant of the fact. They should go back to the time when they had just left college and compare their then practical experience with that of the present day recently qualified man. Still the young practitioner with M.R.C.V.S. after his name should have enough common knowledge and experience to enable him to avoid making an ass of himself, and to prevent himself bringing his profession into contempt or ridicule.

Some of the old men boast of their experience because they have been in practice and muddled through life for many years; many of them seem proud to say they have never opened a professional work nor read a veterinary periodical, nor attended a veterinary society since the time they left their college; not a few are ignorant of the recent advances made in practical knowledge, and more than one are very primitive in their methods. Such men as these, never having moved out of the groove in which they were professionally born, consider themselves quite competent to act as critics. They are like ants, wise unto themselves. Others again are, as Bacon would say: Crafty because they condemn studies while at the same time they make use of them. Still others do not play cricket: although fond of batting they shirk the fielding, that is to say, they are parasites—in other words they live on the brain of others but do not give any of their experience in return.

Before concluding there is another point that should not be overlooked, and that is: Are those members of the Council who now keep unqualified assistants, or allow their dispensers or clerks to do the work of a veterinary surgeon, or who receive fees for training nurses who may ultimately become quacks, going to practise henceforth what they now preach?—Yours faithfully,

"OBTUSE ANGLE."

ON "SEEING PRACTICE."

Sir,

Reading your leading article about newly qualified men, I should like to tell you what I did, or had to do. After passing my second exam. I made up my mind to go and see practice, because practice in the College was very little so far as experience went.

I then left the College for four years and saw practice in all parts of the kingdom, always doing, if possible, locum work, and in two cases assistantship. It is one thing seeing things done (assistant) and having to do them yourself (locum). Keep changing from one place to another, that is the secret. I could write a lot on what I have seen and the men I have met.

When I felt I was getting confidence in practising I then had a start for my diploma. After I got it I had no fear of starting to practise on my own.

Men enter the colleges much younger now than they did. Now supposing a man enters at 18 and at 22 passes his third, I think four years would be well spent in seeing practice in different parts, he would then be just over 26.

No veterinary surgeon should be allowed to employ an unqualified assistant unless he was a member of one of the teaching schools. Trusting this letter may be of some use.—Yours faithfully,

"THREE YEARS COURSE."

AN IMPROVED METHOD OF TREATING CANKER.

Sir,

I should like to ask your indulgence for a little space in your paper for just a few lines concerning "An improved method of treating canker." I only wish to refer to the method of applying pressure.

In January, 1891, I became a pupil of Messrs. J. and A. Lawson, Manchester, and I was early instructed in the art of making these rolls or pledgets of tow of various thicknesses for the securing of pressure. My immediate tutor in this particular direction was Mr. Wm. Johnstone, M.R.C.V.S. who at that time was associated with the above practice. I have a private letter from Mr. Johnstone, dated May 1st., and I give an excerpt referring to the method of pressure, "It is at least 40 years old, as I have used it myself for that length of time, and I am sure a good many others have done the same." During the last 13 years more than 50 cases of canker have passed through my hands, and I have always used that principle in obtaining pressure for the simple reason that I knew no other method.

I may say that in 1902 I demonstrated it to my friend, Mr. W. J. Watt, M.R.C.V.S.—Yours, etc.

HARRY LOMAS, M.R.C.V.S.

7 Ordnance Road, London, N.W.

[The rolls used and shown by Mr. Pillers are long cylinders (roughly, like a piece of lead pencil) about 6in. in length, of different diameters, and rolled hard; the smaller, about ½in. diameter by 6in. long, are inserted first. None of our correspondents have specifically described this shape, and we doubt if ever they have seen or used them.]

RE INTERNATI NAL CONGRESS.

Sir,

Don't you think it is rather an unsound proposition to bring before the profession that a comparative large sum of money should be raised to cover the expenses of entertaining foreign veterinary surgeons whilst in England. We know that the Royal Veterinary College is hard pushed for funds and that the Royal College of Veterinary Surgeons are selling their stocks to live, and some members are already generously giving a guinea a year to help stave off the evil day.

We are a poor profession, and those who are interested in the benevolent associations frequently complain of lack of funds. It is difficult to see what possible good the average practitioner will obtain from the Congress he will be asked financially support, and it is obvious that the bulk of the funds will ultimately find their way from the veterinary profession into the pockets of the catering trade.

I do not wish to be too much of a damper, still with the governing bodies discussing the possibility of ensuing bankruptcy, it does appear to be unwise to suggest the expenditure of thousands of pounds in entertainment. Believe me, very truly yours,

GUY SUTTON.

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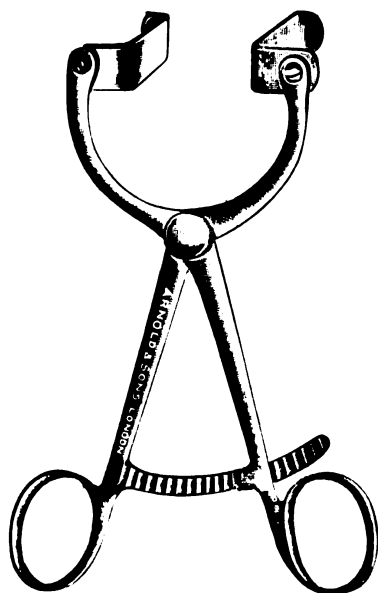
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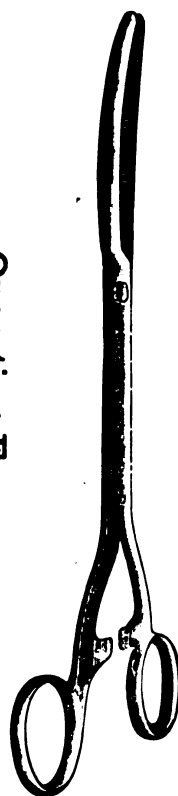


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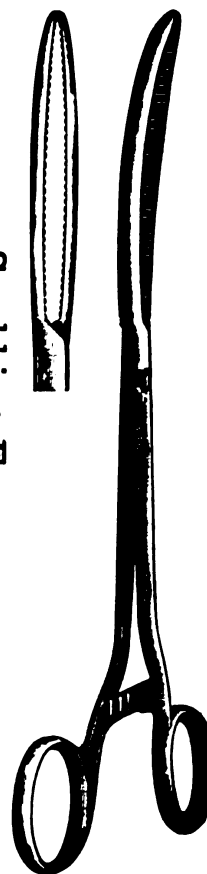


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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE COUNCIL ELECTION.

The Annual Report and the voting papers are circulating amongst us once more. This year's Council election, while to all appearance a quiet one, is both interesting and important. Twelve candidates are competing for nine seats; only five of the twelve are retiring members, and only one other has previously served upon the Council. In any case, therefore, the election must introduce a considerable element of new blood upon the Council; and while, as usual, there are some candidates whose success is quite certain, there may be keen competition for the remaining places.

One rule should be observed at this election—no vote should be given to an opponent of the veterinary Surgeons' Bill. It is true, of course, that the Bill has long ceased to be matter of real controversy within our ranks. The last election at which it formed a test question was in 1909; and there has since been no attempt to reverse the more than emphatic approval of the measure which the profession pronounced at that time. But the Bill is now at a very critical period of its course through Parliament, and it is very important that we should again signify our whole-hearted endorsement of it, and so strengthen the hands of its promoters. There is sure to be a large majority of successful candidates who support the Bill—there are more candidates in favour of it than there are seats for them. But by voting only for candidates pledged to support the Bill, we can render our verdict an absolutely unanimous one.

The Annual Report—a quiet, business-like record of much varied work—should provide ample material for discussion at the forthcoming meeting in Dublin. There are many subjects—the balance sheet, the Bill, the unqualified assistant question, and the work of the Examination and Parliamentary Committees—all of which, being embodied in the Report, will be open to discussion. In the evening there will be a revival of the official dinner of the R.C.V.S. under the presidency of Prof. Mettam. We hope that some Englishmen will make the journey to Dublin, though they usually attend the London meetings in such poor numbers that they are hardly likely to visit Ireland in great strength.

It remains to be seen what use Irishmen will make of probably the first opportunity of attending the Annual General Meeting that many of them have ever had. They are not likely to lack in *esprit de corps*—probably they will rally round their President in numbers which will put the lethargic English section of the profession to shame.

Let us hope they will, for more reasons than one.

A good meeting and dinner in Dublin, by the mere force of example, might infuse new life into future gatherings in London. And certainly it would be a well-deserved compliment to an able and conscientious President, who is now nearing the close of a year of office, every duty of which he has executed with credit to himself.

MEDICAL GRADUATION OF PROF. WOODRUFF.

In the latest pass-lists of the Conjoint Board of the Royal Colleges of Physicians of London and Surgeons of England, we see the name of Harold Addison Woodruff, M.R.C.V.S.

All practitioners will join us in congratulating the young Camden Town teacher, who is now a member of two professions.

To graduate in medicine while actually engaged in veterinary teaching is an onerous undertaking. It has been done repeatedly—two of Prof. Woodruff's own colleagues, for instance, accomplished it many years ago—but the amount of work it demands is so great, and is spread over so long a period, that every man who succeeds in it fully deserves the credit of very exceptional courage and perseverance, no less than of ability.

SOUTH EASTERN VETERINARY SOCIETY.

The first general meeting of this newly-formed Society was held at the County Hotel, Canterbury, on Wednesday, May 8th. The Association was formed at a well-attended and representative meeting of fellows and members of the Royal College of Veterinary Surgeons practising in the county held at Canterbury on Wednesday, January 3rd, the instigator of the movement being Mr. Theo. C. Toope. Mr. James Crowhurst (F.) (President of the Society) presided, and among others present were Messrs. W. H. Crowhurst (F.), G. W. Dunkin, Major Edwards, A.V.C., Canterbury; J. B. Martin (F.), Rochester; Thomas Huband (F.), Kingsdon, Sevenoaks; F. B. Eve, H. Hogben, Folkestone; J. Richardson, Deal; T. Hibbard, Chatham; W. W. Gulliford, Hyde; Thomas Hogben, Ash; E. Ebbets, Rochester; E. Morgan, Faversham; E. L. Dixon, Margate; R. Roberts (F.), Tunbridge Wells; and Theo. C. Toope, Dover (Hon. Secretary).

The great difficulty in reaching the place of meeting owing to lack of railway facilities was responsible for the absence of many who, though fully sympathising with the movement, replied by letter or card stating they found it impossible to come. Amongst these were Messrs. J. A. Todd, Worthing; E. M. Perry, Eastbourne; Thos. Skelton, Epsom; N. Almond, Kingston-on-Thames; M. Moss, Sevenoaks; A. W. Reed, Bromley; F. Robards, Dartford; R. H. Pinching, Horsham; R. A. Thrall, Croydon; T. H. Tranter, South Croydon; R. W. Pitcher, Eastbourne; W. Burt, Brighton; J.

Washford, Romney; Charles Roberts, Tunbridge Wells; P. L. Austen, Pembury; J. Baker Cole, Ramsgate; W. Caudwell, Chertsey; F. C. Golden, Coventry; C. Stewart, Hove; A. Moore, Bromley; P. Perkins, Hastings; L. C. Welfare, Chislehurst; Arthur Whicher, Bexhill, and others.

The PRESIDENT, in opening the meeting, said it was with great pleasure that they met in Canterbury. The business to be transacted at that meeting was of great importance to veterinary surgeons in the South-eastern district.

The SECRETARY reported that he had sent notices of the meeting to every member of the Society, in fact to every member of the profession in Kent and Sussex, and in the south of Surrey, because he was not sure exactly how many members there were of the Society at present. With the notices he had sent post cards and had received thirty-five cards back out of a hundred. Twenty-five of those had stated the intention of the writers to be present that day, but since, he had received two or three letters from members regretting that they would be unable to attend. Messrs. Morgan, Nonington; Pugh, Sevenoaks; P. Gregory, Tonbridge; Prof. Cave, of Wye College; C. Crowhurst, Maidstone, were among those who were unable to attend.

The minutes of the preliminary meeting of the Society, which were taken as read, were adopted.

The SECRETARY said the first business was to receive the draft of the rules which had been suggested by the Committee. They were copied with slight alterations from the Yorkshire Veterinary Medical Society. The Committee had thoroughly considered them, and he took it they were about as perfect a set of rules as could be found.

Mr. ROBERTS said the tendency now was to delete the word "medical" from the title of veterinary surgeons' societies, and he thought it would be best not to start with the title "South Eastern Veterinary Medical Society" and afterwards have to recede from it. He thought it would be better to call it "The South Eastern Veterinary Society."

Mr. GULLIFORD did not think it wise to delete the word "medical," because they as veterinary surgeons were just as much medical men as human doctors were. He could not see why the word should be deleted, and he thought the title "South Eastern Veterinary Medical Society" made it more explanatory.

Mr. MARTIN advised that the word "medical" should be dropped from the title of their Society, remarking that they were veterinary surgeons.

Mr. ROBERTS said they were all veterinary surgeons, but some medical men held two qualifications, those of surgeon and also doctor of medicine. Veterinary surgeons had only surgeons' qualification, and he thought they should call themselves a Veterinary Surgeons' Society, and that they should not make any pretension to assuming medical degrees.

The PRESIDENT said he agreed with Mr. Roberts' suggestion. They would be strong enough to stand on their own, without encroaching on medical societies. He thought it would be quite sufficient if they called themselves "The South Eastern Veterinary Society."

Mr. HUBAND seconded, and it was agreed.

The SECRETARY read the draft of the suggested rules. They had, he said, an unwritten rule that the places of meeting for the Society should be alternately in the east and west of their district.

(After slight alterations had been made)

Mr. ROBERTS proposed that the rules as amended be adopted. He said he thought they were very complete for the guidance and governance of the Society, and that if they lived up to them they would be a very happy Society.

Mr. MARTIN seconded, and it was carried.

FEES OF VETERINARY INSPECTORS.

The SECRETARY said that the Committee had gone carefully through the list of fees now paid and had made various recommendations which he thought it would be best to submit individually for the meeting's approval. He believed if they took a firm stand in that matter they would get much better treatment in the future.

The PRESIDENT said that matter had been taken up in consequence of his attendance at a meeting he called to complain of some of his fees being stopped by the Clerk of Sessions at Maidstone. He went there to ask for an explanation, and he took the opportunity of bringing before the notice of the County Council that the fees allowed him were very inadequate, and especially for attending cases of mange. He also complained of the fees allowed for valuing horses suffering from glanders. He did obtain a partial remedy, the County Council agreeing to allow ninepence a mile one way instead of sixpence. He thought he had managed to get in the thin end of the wedge. In complaining of the fees allowed for valuation of horses, he asked them if it was true that they meant they only allowed 7s. 6d. for valuing any number of horses affected with glanders, and the Clerk said his construction was correct, that that was the fee for valuing any number of horses affected with glanders. He got that reply from the Clerk on May 16th, 1911, and he (Mr. Crowhurst) had striven ever since to bring the matter to a head. He met Mr. Toope and talked the matter over with him, and he believed that that Association had arisen out of it. The letter he received was dated from the Sessions House, Maidstone, and was to this effect: "With reference to your request for re-consideration of the fees allowed to veterinary surgeons for valuing horses affected with glanders, I am directed to inform you that the fees were fixed after careful consideration, and as far as the Council are aware they give general satisfaction." He could not believe that. The letter continued "If officers are not satisfied I should suggest that those who are not satisfied should send a joint deputation on what particular scale they are unsatisfied, stating what allowance should be substituted for those in force, and the question will receive further consideration from the Committee that deals with these matters. W. B. Prosser, Clerk, County Council."

He (Mr. Crowhurst) believed they had simply to put that matter before the County Council, pointing out what they thought a right and just remuneration for their services, and he had not a doubt but that they would be allowed.

For each ordinary visit to inspect animals suffering with mange they were allowed 5/-, and if the distance they had to go was under two miles they got no mileage. He considered that to be unreasonable. That was brought before the Society's committee, and they suggested the fee should be 10/6 for inspecting three horses suffering from mange, and £1 1s. for inspecting over three horses. The Committee discussed the question of fees for an hour, and they wanted the members to give their opinion upon the fees suggested, as to whether they agreed with them or not.

For attendance rendered necessary upon the report of an inspector a sum not exceeding a guinea was allowed, but he was not one of those who had received any of those guineas. (Laughter.)

For attendance at markets they were allowed half-a-crown an hour, but he hoped there was not a gentleman present who was satisfied with half-a-crown an hour. It was not a professional fee by any means. The Committee suggested the fee should be from £1 1s. to £2 2s. When he examined between 500 and 600 head of cattle

he did it at half-a-crown an hour, which was too absurd. It was for them to appreciate their own services.

Mr. MARTIN (Rochester) said the County Council valued veterinary surgeons at the figure the latter valued themselves.

The PRESIDENT said he believed that was so. For glanders or Farcy the Committee considered the fee for testing any number of horses up to eight should be £3 3s., and for each horse above eight one shilling.

For attendance to value a horse or horses the fee was 7 6, and they might have to value ten or twenty horses for that. Whatever number there was they could only claim 7 6. The Committee suggested the fee should be 10 6 for each horse. It would not be likely they would have any great number of horses to value, and 10 6 would certainly be an honest fee for each horse.

For sheep scab the fee was 5 - and 2 - for every additional ten or part thereof, provided the remuneration did not exceed £1 1s. in addition to train allowance. It often took some time to find the acari, and the Committee suggested the fee should be not less than £1 1s. Then again they were often sent to a flock of sheep when it was thought to be recovered, and they had to make a more careful examination, and unless every sheep was carefully examined they could not be at all sure it was free from scab. In that case they should be paid for the great responsibility they had to take. For post-mortem examination in cases of glanders they were allowed half-a-guinea. When they considered the great risk they ran in attending those post-mortem examinations of glandered horses, was such a fee right and reasonable? He was always very careful in those cases, because he was so sorry to see men run the risk of losing their lives. He was told he was nervous, and too anxious. He did not mind that, however. He would ask them as veterinary surgeons and inspectors engaged in that duty to consider the risk and also the responsibility - for, as they know, if they made a mistake there were plenty of their own profession ready to find fault with them - whether they were not justified in asking for a guinea for post-mortems instead of half-a-guinea. It was considered in case of disinfectants they should be allowed a shilling. That was only for disinfecting their own hands. He was asked what the charge was for and he said he had some respect for himself and did not want to take the disease away with him.

For every ticket given at the order of a local authority they got 1 - in cases of mange, so for three certificates they got 3 -.

For travelling by railway they were allowed second-class fare, and for cab hire from a station a mile one way 1 6, and for travelling other ways a mile one way ninepence. When at Maidstone he told the County Council Committee they allowed him second class fare, but that when he got in a cab they allowed him to pay the usual fare of 1 6 per mile, and that when he got to his own carriage he came down to the threepenny rule. He told them he could not afford to travel so cheap. They said there was something in it, and they allowed him ninepence instead of sixpence. The Committee thought they were justified in asking a shilling a mile one way. Those of them who used their own motor cars got threepence, so that it would be seen the County Council treated veterinary surgeons very badly indeed, and did not allow them anything like what they allowed the common cabman.

He thought the Committee had tried to put the matter on a fair basis without wanting to be extravagant. They were simply asking for justice.

Mr. MARTIN said he should call that a strike among veterinary surgeons. The speaker referred to the great responsibility resting upon them in cases of sheep scab. A farmer wanted to move his sheep from one field to another perhaps, and they were sent by the County Council to examine the sheep. They had to make sure,

because if they said the sheep were not suffering from sheep scab they were moved from market to market and the inspectors were responsible. Was it not ridiculous to take that responsibility for 5 -? If they were willing to take such a responsibility for 5 - he thought they were "mugs." In cases of glanders or for post-mortems the fee allowed was 10 6. For 10 6 they had to decide whether it was a case of glanders or not, and it did not matter how many cases there were in a stable they only got 10 6. Were they going to submit to that? The County Council valued their services just as they liked, but if they were loyal to themselves they could demand more, as the coal strikers had done, and he was sure they would get what they asked for.

The SECRETARY said in addition to the members present he had received several letters from members who were also inspectors. One was from Mr. Austen, Pembury, who was fully in accord with anything that meeting did. He stated that he had tried in the past to bring about some action among veterinary inspectors, and he hoped the meeting would have a little more success than he had had, as he could not get them united in the matter. He hoped the Society's efforts to raise the fees allowed inspectors might be successful for "from my past experience I have more faith in dynamite or an earthquake; however, if the inspectors be unanimous and firm in their demands, a committee man told me recently we should get what we ask for, and that committee man was a member of the Animals Committee."

When he (the Secretary) was in Yorkshire the fees allowed there were even worse than those in Kent. They were simply scandalous, and they decided to call the veterinary surgeons together. About ninety per cent. of them attended, and they drew up a scale of fees which particularly suited them. Personally knowing the Chairman of the Contagious Diseases Committee of the West Riding, he suggested the only way to enforce their right was to threaten the resignation of every inspector. They did that, and the document tending their resignations was duly signed. He (Mr. Toope) with a deputation attended a meeting of the Contagious Diseases Committee, and they had a great deal of discussion, and they were treated in the most bare-faced manner. The Chairman of the Committee neglected the other members of the deputation and attacked him (Mr. Toope), knowing him as an agitator. He had an unhappy time, and the deputation was ordered to retire. Before retiring he said he had something to hand the Chairman, and as he was going out he handed in the resignations. The Chairman read it, and in a very courteous manner said he hoped the deputation would come back in half an hour's time. The deputation had decided the matter for the Committee, for they got all they asked for and more.

Mr. DIXON said he was sure, while no one wished to curtail or stifle discussion on that important question - the Committee had considered it very carefully, and they had heard the fees paid in the past and also the suggested fees they should charge in the future - he thought it would save time if they at once formulated some scale - a definite scale, and that it be put into form. He understood a committee would meet the Kent County Council and he agreed that that ought to be done. He would propose that their President, with the meeting's assistance, formulate the fees that they considered a fair and equitable charge in each case (This was agreed to.)

The PRESIDENT said it appeared in the past that different charges had been made. What they wanted was a uniform charge - a definite charge.

Mr. DIXON proposed that the fee be £1 1s. for attending each case of mange and an allowance for mileage.

This suggestion the meeting accepted.

The PRESIDENT said he was getting old, but he was anxious to help the younger members of the profession. For a man to have to go to an auction market and stand there examining cattle at 2/6 an hour was too absurd. He wanted to get the feeling of the meeting on that. The Committee recommended that the fee should be from £1 1s. to £2 2s. They did not want to ask for anything but what was right and reasonable.

Mr. HOGBEN (Ash), who is the veterinary inspector at Sandwich Cattle Market, said he usually got to the market at a quarter past seven and remained there till half-past eleven, his fee amounting to about 15/- as a rule. He had to make out the certificates for pigs as much as possible beforehand, and then fill in the names at the market. At the last market there were 670 pigs and he wrote out nearly a hundred certificates. That was besides bullocks and sheep in the market. There were 55 bullocks in one auctioneer's sale and 50 in another. He had nearly 200 bullocks to inspect, and he should think about 700 to 800 sheep. He charged extra for the writing he had to do at home. He thought the work he did was worth a guinea. If one had a hundred loads of pigs to inspect it stood to reason that a lot of time was taken up. He wrote to Mr. Prosser on the matter, but he replied that nothing more could be allowed except the ordinary scale. Sandwich was one of the markets where certificates had to be made out.

Mr. MARTIN asked Mr. Hogben whether he considered the work he did was worth £1 10s. for the day.

Mr. HOGBEN said the day before he had nearly four hundred head at a sale at Sandwich, and he charged four hours for that.

The PRESIDENT said he thought they ought to consider the number of stock inspected. For himself he would be satisfied with a guinea at a local stock sale, but at Canterbury, Faversham, and Sandwich Markets he considered the work was honestly worth £2 2s.

Mr. GULLIFORD (Hythe) said he had to attend at Newingreen where there were sometimes 9000 or 10,000 sheep. He left his home at 7.30 and did not get back till 3.30, and he thought that was worth more than a guinea. Some sales he attended in the off season there were perhaps only twenty bullocks. The fee came to 15/-. For such sales he got 2/6 an hour, but the fee must not exceed £1 1s.

Mr. ROBERTS said he considered an inspector should be paid a guinea and not be paid by the hour, such method being unprofessional.

The PRESIDENT said the larger markets were worth £2 2s., but he thought £1 1s. would be fair for the smaller ones.

Mr. HUBAND proposed that the fees be £1 1s. for ordinary markets, and £2 2s. where the numbers were considerable.

Mr. EVE seconded.

It was suggested that 400 beasts and 1000 sheep should constitute a large market for which the fee should be £2 2s. and for anything under those numbers the fee should be £1 1s.

Mr. HIBBARD (Chatham) said if 399 beasts and 999 sheep constituted a small market one more of each did not constitute a large market. He thought it would be better to fix the fee at £2 2s. for a market that took over four hours, and anything under four hours' work £1 1s. if that satisfied the meeting, but personally it would not satisfy him as he considered his time was worth more than 5/- an hour.

Mr. DIXSON proposed that £2 2s. be the fee for all markets.

Mr. G. W. DUNKIN seconded, Mr. Roberts supported, and this was agreed to.

The PRESIDENT said the Committee thought the fee for attending cases of glanders and farcy and for post-

mortems should be £1 1s., while for the valuation of horses affected with glanders they suggested a fee of 10/6 for each horse.

Mr. DIXSON (Margate) said he thought a fee of 7/6 hitherto allowed for any number of horses was ridiculous. He considered 10/6 for each horse was a fair charge. In an outbreak at Margate when there were five cases of glanders and the horses had to be destroyed he charged 10/6 for each of the five horses he had to value, and he also charged 10/6 for the post-mortem examinations and his Council allowed it.

The PRESIDENT said boroughs fixed their own fees, but they as veterinary surgeons wanted the same fees for boroughs and under the County Council without any distinction whatever. It was generally accepted that the fee of £3 3s. for mallein testing was fair and reasonable. Then they came to the fee for the valuation of horses. They were dissatisfied with that, and they contended that the fee should be 10/6. The post-mortem examinations were dangerous, and those who carried them out risked their lives, and he thought they should charge a guinea for them. A fee of 10/6 for examining each horse was only fair and reasonable.

Mr. Dixon seconded, and the fees suggested were agreed to.

The PRESIDENT said the Committee considered a fee of a guinea should be allowed for examining a flock of sheep supposed to be suffering with scab, and if they were recovered they thought the guinea was still well earned.

Mr. EVE said it was too little.

Mr. HUBAND said he thought if there were 250 sheep or under the fee should be £1 1s., but exceeding that and up to 500 the should be £2 2s., and another £1 1s. for every 200 in advance of that.

The PRESIDENT said if they examined 250 he thought they were entitled to a guinea for any number up to that, while for any number above 250 he considered they should have £2 2s. The rub came not in detecting the disease but in eradicating the disease. If he found one affected with scab then he should be satisfied with a guinea for a flock of up to 250 and with £2 2s. for a flock above that number. They had to bring their own microscopes, etc., and they were asked to accept a very great responsibility.

Mr. ROBERTS said they required not only to say out of 250 sheep that one was affected, but they had to indicate when making their reports that so many in the flock were affected say, for instance, 27. They had to find one definitely for diagnosis. The point was, after having diagnosed the disease, to be quite sure that they were clean before they let them at liberty again. Referring to the question of dipping, the speaker said he did not think the Board of Agriculture prescribed for sheep to be dipped often enough. He thought they should be dipped oftener than they were.

Mr. EVE seconded the proposition that the fees be £1 1s. for a flock up to 250, and £2 2s. for a flock above that number.—This suggestion was agreed to.

The PRESIDENT said for every post-mortem examination the fee allowed was 10/6, but the Committee considered it should be £1 1s. The County Council did not allow anything for microscopical examinations if they were sent to a case of supposed anthrax and took blood from the ear, but they could only charge 10/6 for the post-mortem.

Mr. HOGBEN (Folkestone) said he generally charged £1 1s. for cases of suspected anthrax, and when he had had to make a special report he charged £1 1s.

Mr. ROBERTS said he thought for microscopical examinations they should be allowed a fee. They were there to arrange things for themselves with the County Council. He knew the latter body would not allow a fee for a microscopical examination if charged alone. They ought to have it very definite that the fee for

microscopical examinations should be 10 6; for inspection of stock suspected of anthrax, or where others had been in contact the fee should be 10 6; and for a post mortem examination the fee should be £1 1s.

Mr. HUBAND seconded Mr. Roberts' proposal, which was carried.

The meeting agreed that they ought to be allowed mileage at the rate of one shilling one way. Every mile to be charged and the first two not exempted.

The PRESIDENT said they must appoint a committee to lay the matter of the fees before the County Council at Maidstone. They wanted to elect men best fitted for the office, men who would carry weight with the members of the County Council.

The meeting decided that the President, Mr. Roberts, Mr. Martin, Mr. Dixon, and the Secretary should form the deputation to attend before the County Council.

AFFILIATION WITH THE N.V.A.

Mr. ROBERTS (Tunbridge Wells) proposed that the Society be affiliated with the National Veterinary Society. He said he knew that nothing but good could come out of it, as everyone of them ought to be engaged in the great national movement.

The SECRETARY read a letter from Mr. Martin on the absolute necessity of the affiliation of the Society with the National Assoc. Mr. Martin wrote in his letter:—

"I note in your Agenda item '3, the advisability of affiliation with the National Society.' I have belonged to that body for many years; it is only by organising ourselves into a strong solid body, with the object of concentrating our whole force to bring to bear on Parliament its irresistible claims for financial support to our poverty-stricken profession. As a deputation of our members have already waited on the President of the Board of Agriculture this requires following up with the indomitable persistent courage of the Suffragists. The Government have wasted large sums over appointments in the Insurance Bill, £40,000, the first quarter, and the land scheme shows they could well afford to subsidise to our poor College as a useful institution in the country. I hope you will get the Kentish veterinarians to rally round you. I found some apathetic in the past."

The SECRETARY said the cost to be affiliated to the National Assoc. would be 1 0 per head for each of their members. They were entitled to one representative besides the Secretary for every twenty-five members. They had thirty to thirty-four members at the present time. Several not having definitely decided as yet.

The PRESIDENT and the SECRETARY were appointed to represent the Society on the National Association.

The SECRETARY reported that the Society was asked to enter the National Congress to be held in 1914 and they were also asked to subscribe. He would ask Mr. Roberts, who took great interest in the matter, to explain.

Mr. MARTIN said when they got funds they would subscribe.

Mr. ROBERTS said he thought it a most worthy thing as it would give a fillip to their profession in this country such as it had never had before. To show the enormous importance that it would be to the veterinary profession he had only to point out that the Congress was recognised by the Board of Agriculture and by the Home Office, and it was clear they would get some assistance from them. They wanted to raise some £5,000, which was the sum Sir John M'Fadyen, who was working very hard, hoped to get for entertaining the Congress in London in 1914. He (Mr. Roberts) hoped they would all keep it seriously before them, and do all they could to help the Congress.

Mr. MARTIN addressed the meeting. In the course of his remarks stated that he was delighted to see such a

good meeting that day. He quite anticipated that they would have a small meeting. He had experience in the formation of those societies, for he formed the Southern Counties Society over thirty years ago. He was pleased to see more enthusiasm, more interest in the veterinary profession. He thought they would find some difficulty in a small county in finding members to write scientific papers. He had no such difficulty in his time, for there were many scientific men ready to write papers for him. But what they wanted to do now was to show their worth in the eye of the public to show their ability, and to prove that they were useful in protecting them from eating unwholesome meat and drinking unwholesome milk, and by that means they would elevate themselves in the eye of the public. Young men were now educated and well up in bacteriology, and they could discover the bacilli in different diseases. The older members must continue to study and to keep abreast of the times in science, or else they would find the young men fresh from College and well-educated supplanting the older men by securing the appointments by Corporations and others.

PRESIDENTIAL ADDRESS.

JAMES CROWHURST, F.R.C.V.S., Canterbury.

Gentlemen,—You having done me the honour of electing me your first President, I beg to thank you most cordially, and must say I am most anxious to do all I can in the interests of this Association during my year of office. I trust we may not forget our motto, "Vis unita fortior," which, if put into practice, will carry us on to a successful issue. May we each uphold the honour and dignity of our profession, and endeavour to advance science and to practise our calling scientifically.

In comparing the opportunities afforded by other countries with that of our own, we may justly be very dissatisfied with the neglect shown by the Government to our profession. It is truly astonishing, considering the stupendous value of the live stock in this country, that no assistance has ever been offered to the Veterinary profession by a grant in aid for research and investigation. Enormous sums have been spent in stamping out disease, and a false step has been taken at great expense by creating a staff of laymen to supplant the Veterinary Surgeon, and the consequent want of success is patent to the local practitioners. If the way sums of money spent in the futile attempt to stamp out Swine Fever could be shown in a total it would astonish the country. And the end of it is not yet.

That veterinary surgeons were capable and practical in doing this work is proved by their success in ridding the country of Cattle Plague, Pleuro-pneumonia, and Foot and Mouth Disease, and had they been listened to and trusted, millions of money, and what is of more importance, many valuable herds of cattle would have been saved by promptly slaughtering when Cattle Plague was first discovered in this country. I well remember it was in August, 1865, I reported to Government the first outbreak that occurred in the County of Kent, but it was a fortnight later before the late Professor Brown was sent here; there was then only one cow alive out of 16. A meeting was called in Canterbury at once, I implored them to slaughter and stamp out the disease immediately. I was only laughed at, and told to cure them; the disease was allowed to spread all over the country before any steps were taken by the Government, and that the famous herds of shorthorns that had taken generations to create were swept out of existence before any effective measures were adopted, is a matter of history. The same dilatory methods were adopted in the case of Pleuro-pneumonia and Foot-and-Mouth Disease; and lastly, Swine Fever.

It will be remembered, too, how hard Mr. Hunting worked before he could get any practical measures taken to prevent the spread of Glanders, and to stamp it out.

I have looked with astonishment to see Tuberculosis spread over our herds, and at the great loss of human life as a sequel, and yet no practical measures taken to prevent its spreading. Here again a great mistake has been made by putting the Surgeon over the Veterinary Surgeon, and placing the cart in front of the horse, by building sanatoria, etc., and neglecting all practical measures to prevent the further spread of this disease. The human surgeon is worse than useless in a cowshed amongst its inmates. As an instance—only the other day I was asked to visit a supposed case of Anthrax. The superintendent of Police informed me that two men were supposed to be affected with Anthrax which was supposed to have been got from the cows. I found over thirty cows were affected with Cow Pox, and that the two men had taken this disease whilst milking. The men were greatly relieved from my report. Even the justly celebrated Dr. Koch could be deceived, and all honour is due to Sir John M'Fadyean for his courage in disputing the conclusion that the bacillus of Tubercle was not the same in cattle as in man. It is a serious loss to humanity that the medical men are not more generous to the Veterinary surgeon. I remember the time when they were not on the high pedestal they sit on now, and their practice of bleeding their patients every spring and autumn is within my time.

Veterinary surgeons have no cause to be discouraged, but they must combine and demand their right to be the better fitted men as Inspectors of Dairies, Cowsheds, and also of Meat.

I very much regret that Veterinary practitioners are by no means fairly treated by the Board of Agriculture or by Agricultural Colleges. These are doing all they can professedly to assist the Agriculturist by the first-aid lectures and leaflets, to the direct injury to the local Veterinary practitioner. The V.S. is left to fight for his position and earn a meagre living. There are no grants in aid, no hospitals formed for them, no beds endowed, no bequests, no pensions on retirement after 50 years' service as Inspectors, and no retaining fees; generally being only paid when at work, and certainly not overpaid then. I am unaware that any leaders in our profession have ever taken any practical measures to render any assistance in obtaining more reasonable fees for Inspectors throughout the country. This ought to be done. "*Vis unida fortior.*" The human surgeon has shown how this is possible. Where are our leaders?

I wish to call attention of our members to the scale of fees allowed by Insurance Companies. They should either be improved or refused altogether.

A fee of 3 6 is offered to drive a distance of five miles, examine a horse and report thereon. I have written across such a request, "I consider this an insult to the Veterinary profession," and returned it. A case came to my notice the other day where an unqualified person was sent to examine for a company, and after an accident the same unqualified man was called by the owner; and after death the company refused to pay, as their conditions were that a qualified Veterinary surgeon must be employed. Personally I have never accepted an agency from any company, and think such undesirable.

The inspectors for the R.S.P.C.A. are now giving evidence before magistrates and experts, and their evidence is generally accepted, some of them stating on oath they have passed two, some three, stiff examinations. The inference from this is obvious. Giving evidence at the Court at Margate a short time since, the inspector and a veterinary surgeon swore that the horse had sidebones and ringbones, and the foot greatly misshapen.

The horse when a foal was trod on by the mare, the foot was not greatly misshapen, nor had it either ringbone or sidebone. I wrote to the Society requesting them to send some disinterested expert to examine the horse, but they declined. I have the support of a very reputable and honourable veterinary surgeon to substantiate my opinion in this case. It is most damaging to the profession when there is such direct cross-swearing on matters of fact, and some investigation ought to be made in the interests of the profession. I admit there always will be differences of opinion in our profession, as in others, but a line should be drawn somewhere.

The Board of Agriculture are now applying to farmers' clubs for information as to the prevalence of John's disease. I should have thought they would have asked the veterinary inspectors throughout the country rather than agriculturists. Their application has been sent to me by the Canterbury Farmers Club. I also call attention to another communication from the Board, on bovine tuberculosis, asking for information from Agriculturists who have been making their own private investigations. I certainly think in Germany and France such information would have been sought from the veterinary profession.

In the interest of the profession I welcome the new rule that unqualified assistants should not be employed, and I think a similar rule should be applied to quacks covered by their own sons. A new system of quackery also should receive our attention—the purchasing and using new remedies supplied by certain druggists, the ingredients not being disclosed, testimonials being freely given by members of the profession for them. Surely this must be damaging to the profession. If you compare the drug list of to-day with one of 20 or 30 years back, I think it will be very instructive. You will there see that recent remedies are offered to stud grooms and agriculturists who are plainly told that the very same remedies are sold to veterinary surgeons. Preparations of arsenic, ammonia, blisters, liniments, etc., etc., are better prepared by the practitioner himself. He knows exactly the strength, and can vary as he chooses. Our instrument makers, too, not content to supply members of the profession only, sell direct to the stud groom and farmer—with instructions as to use. This has been largely brought about by village lectures given by veterinary surgeons from agricultural colleges. Professedly they are helping the struggling professional brethren by teaching first aid, but they do not confine themselves to that, teaching, as a client of mine told me, very much more. However, I am thankful to say matters have improved in some respects lately, a little *esprit de corps* being shown, but there is certainly still room for more.

Great changes have occurred in the teaching of our profession, and I should be glad to see the apprenticeship reinstated. A student found by temperament to be unfitted for the profession could drop out before any great expense is incurred, and I am convinced more practical men would result from that system.

It was decided to hold the next meeting of the Society at Tunbridge Wells in September.

The members of the Society, who were joined by Sir George Collard, were entertained to tea by the President and Mrs. Crowhurst.

THEO. C. TOOPER, Hon. Sec.

THE DISEASES OF ANIMALS ACTS, 1894 TO 1911.—The Board of Agriculture and Fisheries have appointed Leonard Frank Eady, M.R.C.V.S., and William Jackson Young, F.R.C.V.S., to be assistant veterinary inspectors (non-established), for the purposes of these Acts.

CENTRAL VETERINARY SOCIETY.

A general meeting was held on Thursday, May 2nd, at 10 Red Lion Square, London, W.C., the chair being occupied by the President, Mr. R. J. Foreman. The following fellows signed the attendance book: Messrs. W. S. Mulvey, P. W. Dayer-Smith, J. W. McIntosh, Prof. H. A. Woodruff, W. L. Harrison, Sydney H. Slocock, Sidney Villar, Prof. G. H. Wooldridge, A. Rogerson, Prof. J. Macqueen, E. Lionel Stroud, J. Willett, James Rowe, F. W. Willett, W. Perryman, D. Stewart, R. F. Wall, R. Bryden, H. Simpson, Henry Gray, G. Gordon, J. F. Macdonald, F. O. L. Walpole, G. W. Lucking, Ralph Bennett, Wm. Hunting, H. King, G. Sutton, H. D. Jones, W. Roger Clarke, T. S. Price, W. Willis, A. L. Wilson, and Hugh A. MacCormack, Hon. Sec.; and four visitors.

On the motion of Mr. Smith, seconded by Mr. McIntosh, the minutes of the previous meeting were taken as read.

SPECIMENS.

Mr. LUCKING showed the second and third cervical vertebrae of a pony. He could not say whether the trouble had been the result of a fracture or a tuberculous growth; there had been a lot of swelling, which came up suddenly, as in the case of a fracture. The animal lived about six months after the first appearance of the mischief. In reply to the President, Mr. Lucking said that there were no signs of paralysis, but the animal could not move its neck much.

Mr. LUCKING also submitted a double fracture of a sesamoid from a hunter. In the case of the first fracture the bone got sound again, but the year following there occurred another fracture of the same bone. In reply to an enquiry, Mr. Lucking could not account for the fracture; it was in the foreleg of the animal.

Mr. ROGERSON narrated, in this connection, an instance of a horse employed in working a capstan. The rope attached to the capstan, which was revolving, became twisted; there was a chain and a hook at the end, which were not attached to anything. These swung round, hitting the horse behind the fetlock, with resulting fracture of the sesamoid bones. It was very unusual for the sesamoid to get fractured without some violent blow from outside, and the specimens were therefore unique.

Mr. MULVEY said that he had two cases of fracture of sesamoid bones during the last hunting season, both due to blow resulting from overreach.

Mr. LUCKING, replying to an enquiry from the President, said that in the case of the hunter, the latter had been treated for the first fracture, and was ill for about six months.

The PRESIDENT considered that in the case of the sesamoid bones of the pony, it was not a fracture but probably a tuberculous growth.

Mr. MACDONALD exhibited a morbid specimen belonging to a horse—a vanner—which had been at work about five years in London, and had not lost a day's work. One morning this animal, which had eaten his breakfast, and was just being walked from the stable to the van, suddenly staggered and dropped; he got up again, but died in about a quarter of an hour. The post-mortem showed chronic abscess in the wall of the ventricle; there was a little pus in the centre. The animal had never seemed to suffer from the abscess, was always a good worker, never flinching. Yet there had been this lesion in the heart for some considerable time.

ELECTION TO COUNCIL OF NATIONAL ASSOCIATION.

The PRESIDENT read the communication from the National Association setting forth the conditions of election, and he further read the rule (No. 36) governing

the procedure of the National Association in this connection. It being determined that six members of the Central Veterinary Society should be chosen, the names of the following gentlemen were put to the meeting, and their election carried:—Messrs. R. J. Forman, Prof. Macqueen, H. Gray, A. L. Butters, S. H. Slocock, and J. Willett.

A WAR OFFICE REGULATION.

Mr. WALL desired to bring before the meeting the fact that the War Office were asking members of the profession to put down their names in connection with the purchase of horses in the event of mobilisation. Retired officers and civilians were to be employed to purchase and inspect animal—the rate of pay offered by the order was, £3 a day and expenses, while the veterinary surgeon was to receive £1 a day, and £2 a day if he placed his premises and employees at the disposal of the Government. The speaker considered the difference in the pay implied an insult to the professional men, and hoped something might be done to point out to the War Office the injustice of this proposal. At least they should put the inspecting officer and the veterinary officer on an equal footing, and acknowledging this in the rate of pay.

Mr. Wall did not know whether the proposition was intentional on the part of the authorities, but thought something should be done.

Prof. WOOLDRIDGE supported Mr. Wall. Doubtless in the event of war and mobilisation members of his profession would do their best to assist at the various barracks, but in times of peace such discrimination was unfair, and it was not desirable that the terms should be suspended in black and white to the disadvantage of the profession. It would have been better to have avoided the mention of any fee.

Mr. VILLAR considered that the matter could be better discussed, if the printed document were before the meeting.

After some further discussion, it was proposed by Mr. Willett, and seconded by Mr. Gray, that the Secretary be asked to communicate with the War Office and request a copy of the Order.

DEPUTATION TO THE SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

The PRESIDENT read the communications that had passed:

Gentlemen,—A deputation consisting of Messrs. Hunting, Willett, McIntosh, and myself were received by the General Purposes Committee of the R.S.P.C.A., on April 13th last on a number of objections, a copy of which we had sent in advance. I addressed them as follows:

As President of the Central Veterinary Society I beg to thank you for receiving this deputation, and to express a hope that our meeting to-day will clear up some misunderstandings.

No one more highly values the work done by the Royal Society for the Prevention of Cruelty to Animals than the veterinary practitioner, and if we do not always see quite eye to eye it is because we veterinarians have a duty to our clients, as well as to the claims of humanity.

Many of us are directly responsible for the condition of studs of working horses, and whilst we have no desire to shirk our responsibility we feel very keenly that there are cases in which justice is not done to the horseowner, or to the Veterinary attendant.

When you wrote to our Secretary asking for an outline of the points we desired to discuss, we sent a list of six; and to these I will now direct attention.

No. 1. The majority of drivers are respectable, but not very intelligent men, and are liable to err from ignorance. They take out their horses with simple faith that

the owner or horsekeeper has satisfied himself that they are fit for work.

Sores may be produced without their cognisance, and lameness may arise from many causes—some painful, but many of such a nature as to not amount to cruelty.

We suggest that instead of subjecting the man to the indignity of arrest and detention, proceedings might more often be taken by summons, and the horse sent to his stable.

No. 2. The late Mr. Justice Hawkins many years ago expressed his disapproval of officers acting as Prosecutor, Witness, and Advocate. It seems quite obvious that this must lead to over zeal and exaggeration. It affords the prosecution a great advantage, as the trained officer is usually dealing with an ignorant defendant.

No. 3. Evidence as to the nature of lameness may safely be given by an untrained person, when the intensity of lameness is well marked; or when some obvious cause is visible. But in the majority of cases a correct diagnosis can only be made by an expert.

Your officers are very much inclined to undervalue the difficulty of diagnosing lameness, and to give positive evidence when an expert would hesitate. They seldom fail to find "heat and tenderness" in a lame case. They do not invent the symptoms but they mistake fidgetiness for tenderness and detect heat by retaining their hand on the lame leg longer than on the sound one. Some even find heat in a limb without comparing the state of the other leg. Another term frequently used and often misleading is—"Very Sensitive," as applied to horses with sore shoulders or withers. There are many horses that having once had an injury never forget it, and always resent having the parts touched; and there are highly nervous animals that seem to show pain when touched, that have no trace of any painful spot about them.

These terms are misleading, and have often convicted an innocent man.

No. 4. That witnesses exaggerate when they desire to win a case is beyond dispute—it is recognised in every kind of case, but in none is it so easy to do as in dealing with symptoms shown by living animals. To bring forward specific cases of this is very difficult, we do not desire to have individual inspectors reprimanded; and proof of exaggeration would require, in most cases, great trouble and expense.

No. 5. Most Veterinary practitioners can adduce instances of fear on the part of clients to complain of what they consider grievances. A horse is sent home for some trivial reason, and Veterinary advice is given to send it out again; but the owner replies, "I had better not. I shall only get into worse trouble." In cases of unsuccessful prosecution, owners quote such remarks of inspectors as, "You won't get off next time" or "It won't be long before I have you again."

When asked to send a complaint to the Society's Jermyn St. offices, they decline, under the belief that they would only suffer again.

No. 6. Intrusion on private premises without notice is clearly illegal. It seems only the barest justice, in a case of probable prosecution, that the examination of a horse should be conducted by agents of both parties—the Veterinary Surgeons both of Society, and of Owner.

The unarranged visit is open to another objection—that the trained inspector questions and cross questions stablemen and horsekeepers, and uses their statements in the witness box. And they do this with no warning that what is said may be used against him.

We have put forward these points as being our objections to the methods of the Royal Society for Prevention of Cruelty to Animals, and the procedure of their Inspectors. We venture to think some alterations might be made which would lead to greater fairness to

horse-owners, and to not less care and kindness to animals."

Their Chairman then answered each point *seratim*, almost as we anticipated:—

1. That under the present system there was no chance of getting wrong addresses; or of another animal being substituted. He added a point that was new to us, viz., that magistrates practically insisted upon a charge instead of a summons.

2. The Chairman explained that the Society could not incur the expense of having counsel for each case.

3. That this was a matter of individualism, and they could not see how they were able to deal with it.

4. Practically the same answer as to No. 3, with addition that they did not seem to think it mattered very much as it was now left for the magistrate to judge for himself.

5. They were very surprised at this objection, and asked for cases to be reported to the Society.

6. They did not see how this could be altered, as it would lead to great waste of time, and could not see the necessity of notifying the owners' V. S. at all. A lady present, on the committee, drew attention to the rule which provides for notification to the owner of a visit of inspection; but we gathered that this rule was more often honoured in the breach than the observance.

Mr. Hunting replied in detail to a number of the answers of the Chairman, and Mr. Willett, Mr. MacIntosh and I added facts and arguments in support of our position.

The Chairman informed us that he was a magistrate and gave an instance of Veterinary evidence which I am bound to admit seemed sufficient to shake a magistrate's faith in Veterinary experts.

He also appeared to think that the V. S. assumed too dogmatic a position in relation to what was and what was not cruelty.

On the whole we received the impression that the Committee thought that no case had been made out against their methods of procedure, and that when a rare error was made it was fully accounted for by defective judgment on the part of individuals.

MR. GRAY'S COMMUNICATION *re* THE ROYAL VETERINARY COLLEGE.

MR. HUNTING said that at the last meeting he had been unable to hear clearly the paper which had been read by Mr. Gray. Now that he had seen the printed copy, it appeared that Mr. Gray's proposition had been hurriedly thought out and hurriedly written. A number of points in it were of no importance; others were extremely controversial, and some he might describe as not very lucidly expressed. All would agree with the statement by Mr. Gray to the effect that "the Royal Veterinary College should receive liberal financial aid from the State, so that it could be so equipped as to bring the teaching and the means of investigation up to the level of modern requirements." Towards the close of the paper, however, Mr. Gray had put this question: "Are we going to meekly allow the College to obtain this grant from the Government, and then to continue this competition, unfair now, because we when students supported the College to exist?" The two paragraphs were, the speaker said, mutually destructive, and required no answer, unless from Mr. Gray, who might try to reconcile the contradiction. He had difficulty in understanding why Mr. Gray brought forward his proposition. There was a time for everything, but the time when the College was financially pressed and was endeavouring to get money from the Government was not the time at which to attack it; a little chivalry would have suggested letting the College alone till a more convenient time. Mr. Gray had stated that "the sole

object of the Royal Veterinary College when founded was for veterinary education," and the speaker would inquire if that were not still its object? Again, Mr. Gray said: "But as time went on and the original subscribers dropped out a new type of subscribers replaced them, whose motive generally for becoming a subscriber was a commercial one." It was well not to impute motives to anyone, but the speaker had as much right to assume that those who subscribed their two guineas did so from a benevolent motive as Mr. Gray had to say that the transaction was a commercial one; he believed that out of possibly two hundred subscribers not one hundred derived any personal benefit; some might get more than their due, but the majority honestly subscribed their two guineas to a public institution. There were apparently only two specific objections made against the College by Mr. Gray; one that they sold medicine at less than cost price. The speaker considered that if the charge were 1s. a bottle it was not often that the medicines would be sold at very much under cost. The other objection brought by Mr. Gray concerned the charge of 5s. a week for the keep of a big dog, such as a Great Dane, but the speaker would point out that not only the Great Dane but the Pomeranian was kept for that sum; there was one set price, and that only to subscribers. He could not help regarding these two objections as somewhat paltry. Mr. Gray had suggested, as an alternative to the methods of the College, the "taking in animals only belonging to the poor and getting subscriptions from a sentimental public," and he had compared the College to "Our Dumb Friends' League" and "The Animals Institute." Whether these latter institutions sold medicines at cost price or not he could not say, but he did not imagine that they did the veterinary surgeons in their neighbourhood any good, nor could he think that dependence on a sentimental public would encourage scientific teaching. There was, of course, a gratuitous charitable practice conducted at the College, and he felt that all would agree as to its necessity. It was not possible to teach students without subjects to show them, and without a "cheap" practice there would be fewer subjects than now. Moreover, with a cheap practice the students could "try their 'prentice hands," and could conduct operations which would not be allowed by the owner, say, of a hundred-guinea hunter, who was paying.

With regard to the paragraph at the end of the proposition, to the effect that the Royal Veterinary College was "no longer a necessary institution to the country, as there were several other self-supporting ones that did not enter into competition with the practitioners," the speaker would have thought that Mr. Gray must have regretted having written such a paragraph; had the speaker been the author of it in a mistaken moment he would have made a public apology at the earliest opportunity. The Royal College had not ceased to be a necessity in respect either to teaching or research work, which had been most brilliant, while the clinical work was of as high an order as that of any other college in the kingdom. The post-graduate course, too, was second to none in Europe. There was a strange want of proportion about Mr. Gray's paper. Here was an institution of old and prominent standing against which the objections raised were too small a charge for keep of dogs and for medicine! During the American Civil War one of the biggest battles happened to be fought on and around a farm. The farmer worried the General and bullied the Department of War for compensation, and was told that he would get it in time, when the matter could be gone into. That did not satisfy the farmer, who looked up the President, Abraham Lincoln, and explained how his farm had been damaged, and insisted upon immediate compensation. President Lincoln told him that his action reminded him of an incident on board a Mississippi steam boat. A certain

place on the river was rendered highly dangerous by snags, rocks, and currents. Steering the boat himself, it was all the captain could do to get safely through. One day, in the middle of the Rapids, a little boy who had been playing about the deck ran up to him and said, "Hi! captain, stop her, turn her round; I have lost my apple overboard." Lincoln added, "And I think, my man, you have lost your apple overboard." The speaker considered that Mr. Gray's case was fairly described as one in which he had "lost his apple overboard."

Mr. WILLETT said that Mr. Hunting with his well-known skill had evaded the real point of Mr. Gray's paper in an admirable manner, that point being, the speaker assumed, the competition of the College with its former students in London. Mr. Willett doubted if there were many veterinary surgeons in London who had not, at one time or another, felt that competition. It was not necessary to go often to the cheap practice at the College to see people sitting there who were well-dressed and owned a class of dog which made it reasonable to think that they were well able to afford a veterinary surgeon outside. It was difficult to avoid this state of things and for the Professors to discriminate between one and the other. He would suggest as an alternative that no one should be admitted to the cheap practice without a letter from some responsible person—veterinary surgeon or layman—saying that they were unable to afford proper treatment outside. In regard to shoeing horses, a minor matter, the speaker knew of several cases in which horses had been sent to the College to be shod, which had previously been done by private practitioners, who were told that if they would shoe as cheaply they could have them back, but there was a natural disinclination, say, to come down from 6s. to 5s. a set. With regard to horses, doubtless many people subscribed, just for the commercial saving in examination and treatment. He knew of an owner of eight horses who always sent a poor man to the College with his horses to the cheap practice, and the horses had been fired and treated for a small fee. How was the professor at the College to know that the owner had more than one horse? For the foregoing reasons he made his suggestion about a letter from a responsible person. At the same time he did not wish it to be understood that he was not in sympathy with the College in its application for a grant.

Mr. McINTOSH, with every admiration for the teaching of the College, hoped nothing said at that meeting would diminish the chances of a grant from the Government. But certain methods adopted by the College he strongly resented. He would cite instances of practice. One of his firm's horses had been taken there with colic. The account was duly rendered, accompanied by a circular inviting subscribers, and holding forth—underlined in red ink—the benefits to be obtained in the form of cheap medicine and cheap advice. He wondered what the Council of the Royal College of Veterinary Surgeons would think of an individual member who issued such a circular to another man's client. He knew several large owners, subscribers to the College, one, a particular friend of his own, who paid his £2 2s. with the one object of getting his horses fired and blistered at a cheap rate. That practice should not be allowed, and if he had been in general practice he would have done his best to prevent it.

Mr. VILLAR stated that although he was neither a London or suburban practitioner, and was in no way connected with the Royal Veterinary College, he, as a member of the profession, regretted that Mr. Gray had chosen to exploit his somewhat extraordinary views at so inopportune a moment, and he quite agreed in this with Mr. Hunting.

The Royal College of Veterinary Surgeons and the Royal Veterinary College as scientific institutions probably never stood higher in public esteem than at

present, but the financial position of both was deplorable. One of them to his knowledge was rapidly passing into a state of insolvency—and now one of these institutions was applying to Parliament for power, by the Veterinary Surgeons Bill, to raise funds, and the other was applying to Government for financial aid—surely this was a time when all well-wishers of the profession should unite and assist these old established bodies to regain their position. If it were not possible for all to be loyal, let them at least be business-like, let them get the money, and if need be dispute afterwards its method of expenditure.

It was not clear what Mr. Gray intended his deputation to the Board of Agriculture to represent. Apparently it was to point out that it would be wrong to grant funds to the Royal Veterinary College because this Institution was no longer necessary to the country, but generally the ideas expressed in the paper were vague and confused. As Mr. Hunting had pointed out, it was difficult to follow a man who thought the Royal Veterinary College should receive liberal financial aid from the State and yet stated that the College was not a necessary institution.

Mr. Gray had gone on to suggest that the Royal Veterinary College should depend for its existence upon subscriptions from the sentimental public, and had pointed out how well "Our Dumb Friends League" and some other Society had done in this way. For some years the speaker was professionally attached to the Home of Rest for Horses, a very excellent Society, but amongst its rules was one that no horse should be fired in its infirmary, and that no horse should be admitted that had been recently fired or that was suffering from Quittor—the committee who managed it objected to severe operations. Yet Mr. Gray apparently would have the whole veterinary profession—for the profession was moulded at the teaching schools—ruled by such sentimental persons as governed the Royal Society of Prevention of Cruelty, and such like bodies.

Mr. Gray's reference to hospitals was irrelevant: no human hospital could be compared to the Royal Veterinary College as the conditions were so different. The whole profession was under a great debt to the teaching schools, especially at the present time. The reason for their bad financial condition was the paucity of students, whose fees were their chief source of income. Some might suggest that the increasing use of motors and mechanical traction was the cause of this paucity of students, and to some extent that was so, but what was a much greater reason was the present standard of the matriculation examination. If Latin or Geometry were made non-obligatory it would lead to a great access of students. It was to the credit of the teachers of our schools that there were no greater opponents than they to a reduction in the severity of the examination, recognising as they did that the profession would suffer if less educated men were admitted. What was Mr. Gray's motive in raising this question? Could it be that he had become infected with the prevailing spirit of unrest, and was trying to emulate the political leaders of trade unions, and stir up strife? If this were so, he might be quite certain that the Central Veterinary Society would never support so ill-considered a statement as this.

Prof. WOOLDRIDGE also considered that Mr. Gray was ill-advised to put forward his proposition at the present juncture. [Mr. Gray: "I was not advised at all." Prof. Macqueen: "I should think not!"] Mr. Gray's attitude reminded him of the Biblical story of Balaam and his ass reversed. Mr. Gray started with a blessing and ended with a curse. The speaker scarcely felt that he was called upon to depend the College; it would have been more dignified to have ignored it. It was difficult to see any point in the statement that

"the sole object of the Royal Veterinary College, when founded, was for veterinary education;" unless it were made with a view to saying that the object no longer existed. The paper was apparently an indictment of the Governors of the College for the way in which they carried on its business or transactions, and that suggested that they no longer had education at heart, but had some ulterior motive. He would challenge anyone to point to a single member of the Board of Governors who derived personal benefit to the extent of one half-penny. The object, the speaker contended, was still veterinary education. Mr. Gray had complained about the small subscription required in order to qualify a subscriber to participate in the privileges of the College, which had led to competition, and he had followed that complaint by saying that "those who are in a position to become subscribers were not likely to be influenced so vitally on the question of paying a reasonable fee." According to this, the amount of the fee, whether large or small, was of no importance. Mr. Gray had also said that the College was neglecting its duties, and by way of proof pointed to the establishment of such institutions as "Our Dumb Friends' League." Mr. Gray had adverted to the number of the hospitals in London. Did that gentleman suggest that the number was accounted for by neglect on the part of the first of the Institutions? The fact that there was work for a number of these hospitals did not imply neglect on the part of one. The main point of Mr. Gray's argument was competition with practitioners. The Royal Veterinary College had a practice, but it supported no fewer than twelve veterinary surgeons, who would otherwise increase competition in London. If the College were done away with and the surgeons employed let loose, he questioned whether Mr. Gray would not lose as many clients as he did under the present system. It is quite possible that some of them might be able to earn bread and cheese even in the West End of London, and certainly Mr. Gray and other practitioners would not be much better off. He did not feel disposed to discuss with Mr. Gray the question of the duties of the professors. Mr. Gray had further contended that not one practitioner was directly or indirectly represented on the board of governors; there was, however, a London practitioner on the Board at the present time which disproved the statement—most of Mr. Gray's "facts" were of this nature. To quote again, Mr. Gray asked: "Are we going to meekly allow the College to obtain this grant from the Government and then to continue this competition, unfair now, because we when students supported the College to exist." What would the authorities of Mr. Gray's school, wherever it was, say if that gentleman went to them now and pointed out that at one time he paid his school fees there and honoured it with his presence, and suggested that they were consequently in his debt, and demanded a voice in the government of that school? Did anybody ever hear of such an absurdity? The speaker's attitude to his own school was the reverse of that; he felt that any success he had achieved was due to that school in the first place, and then to the Royal Veterinary College, which had completed his education. He felt that he owed a debt to his school and college and not that they were under any obligation to him. He would put another phase of this question to Mr. Gray: Had he knowledge of any member of the profession who, having asked the members of the staffs of the various colleges for advice, had been refused? [Mr. Willett: "No."] It would surprise members perhaps to know the number of letters, asking advice in specific cases, which the Professors of the Royal Veterinary College received from town and country members of the profession; and this advice was willingly and ungrudgingly given. He thought Mr. Gray might recognise that he owed something to the Institution; that he had received his education there, that he

had received more than *quid pro quo*, and with the result had been able to make, to say the least of it, a reasonable living. The contention that the Royal Veterinary College was no longer a necessary institution was too absurd for words. Could Mr. Gray point to any institution that was absolutely essential? No institution of any character whatever was essential, but surely that did not justify the abolition of all institutions. The speaker considered that it would have taxed even the ingenuity and agility of a Chancellor of the Exchequer to have reconciled Mr. Gray's opening remarks and his concluding statements.

Mr. GUY SUTTON was the next speaker. He said: Could the College be rightly described as "a very active competitor," in spite of the fact that its charges for the keep of both horses and dogs were admittedly too low. With regard to carriage-horse practice, certainly the neighbouring practitioners did not suffer much. There was a very good reason for this. With regard to the shoeing, after all was said and done, what did the competition amount to? Is was a small forge, with one fire, and if they tried to increase the amount of their shoeing, they would probably find it difficult to do so. As to the charges made for dogs, here the College undoubtedly missed a certain amount of revenue. The people who sent their dogs there would still do so if the charge was 10s. per week instead of 5s., and very little of their clientele would be driven from their doors and distributed amongst their neighbours by the increased fee. Regarding the competition in the examination of horses for soundness, there was not a dealer in London who sent horses to the College if he could possibly persuade his clients to send them elsewhere.

Prof. MACQUEEN, while considering that Mr. Gray was perfectly free to express himself in any manner he chose, believed that very few London practitioners would agree with the terms of his indictment, or would care to assume the attitude of moral turpitude that Mr. Gray would appear to have taken up in regard to the Royal Veterinary College. In proof of the fact that no very strong views against competition by the College were held by London practitioners, he would say that two or three years ago he had applied to certain of these gentlemen regarding some repairs to loose boxes at the College and had met with a ready response from every one applied to, a sum of £650 being subscribed. Dealing with the paragraphs in Mr. Gray's paper, he would say that it was not true that the Royal Veterinary College had been founded for the sole purpose of education, that being a subsidiary item, which was not introduced till some years after its foundation. Its original object was "The improvement of farriery by collecting from men of experience and practical knowledge well-authenticated facts relative to the diseases of horses, cows and sheep, their treatment and cure." It was only after the College had become firmly established that education was taken up, and a considerable period elapsed before there was any evidence of tuition beyond the sanction given to the professor attached to the College to take a few pupils.

With regard to medicines and the keep of animals, the charges at the College might be low, but it must be remembered that the subscriber for horses paid two guineas and the subscriber for dogs one guinea a year for their privileges, and in each case this premium had to be considered in estimating the charges for keep and treatment. Though small, the fees were not ridiculously small. The reference to the Brown Institute and the London Hospitals, however useful these Institutions might be, was inappropriate in a discussion concerning the prospects of the Royal Veterinary College: there could be no proper comparison. The principal point was the competition by the College, and, in the speaker's opinion, the College was quite entitled to compete with any practitioner. Indeed, the College had made a mis-

take in not extending that competition when practice was good. This was not the first occasion on which the question of competition had been brought forward. The Governors of the College had, however, always tried to avoid competition. Had competition been their chief aim, or had they realised its advantages, a West-end branch would have been set up fifteen or twenty years ago. Mr. Gray had said "The Governors should consider the fact that the College should be supported mainly by our fees, i.e., those of us who were students there." Again he had said that "there are several other self-supporting ones (Veterinary Colleges) that do not enter into competition with the practitioner." With regard to these statements, What were the facts? In Scotland, the Glasgow and Edinburgh Colleges were in constant competition with the practitioners: they held contracts, attended outside cases and practised in the ordinary way. At Liverpool, on the staff of the Veterinary College there were at least two veterinary surgeons in regular practice. In Dublin, owing possibly to the activity of the practitioners in obtaining positions on the Committee of Management of the College a free clinique was not allowed, and the institution was suffering from the loss.

The London College did not actively enter into competition in practice, but he saw no reason why it should not compete, and if the agitation was continued the Governors should reconsider the position and allow the qualified veterinary surgeons at present engaged exclusively at the College to extend into various parts of London, and conduct practices.

As to representation on the Board of Governors, it would be sufficient to say that direct representation of the practitioners in London undoubtedly existed; Mr. Hunting was a Governor of the College. At the moment when the Board of Agriculture was deliberating upon making a grant to the Royal Veterinary College, Mr. Gray's agitation was most ill-timed, and he would urge members of the Society to do nothing that would interfere in any way with the grant being made.

With regard to Mr. Willett's suggestion of letters from responsible persons in behalf of those taking advantage of the cheap practice at the College, he would say that already letters had been tried without success. It was not difficult in London to obtain certificates of poverty, which was rather hard to define.

Mr. McIntosh had raised certain objections. A horse with colic was brought to the College for treatment. The account was sent in to the owners, and the Secretary enclosed a slip giving the regulations of the College. The speaker could see nothing unprofessional in that course. Mr. McIntosh pointed out a defect, but suggested no remedy. He had complained that horses were sent to the College to be fired and blistered, and suggested that some practitioners must suffer in consequence. The College was open to voluntary subscribers and until Mr. McIntosh could devise some other scheme, it was not possible to prevent persons bringing horses to the College to be fired and blistered. Complaint had been made in reference to the charges for shoeing, but Mr. Willett overlooked the 42s. premium as affecting the low charges. The College had no canvassers, and did not send out to seek for work. When the College put on a set of shoes, four shoes were put on, and when two shoes were removed it did not charge for two new ones. The charges might be low, but they were legitimate. Prof. Macqueen further pointed out that certain rules and regulations of the College now in force were in operation in 1801, and he quoted from a published statement as follows: "The institution was founded in 1791, and was at the commencement supported by private subscriptions. Since 1795 to the present time (1801) Parliament had most liberally granted £1500 per annum to promote and enlarge the

views of the veterinary establishment. The subscribers paid £2 2s. per annum, or £21 for life—the same terms as at present. In concluding, Prof. Macqueen said that it was the business side of the College that was weak. He denied Mr. Gray's contention that the student carried a perpetual claim on the College by right of entry; every student leaving the College had received full value for his money, and he was not entitled to regard himself as a permanent prop of the institution.

Mr. McINTOSH was sorry Prof. Macqueen attempted to justify the issuing of the "circular." He had no objection to the College inviting subscriptions, but surely it is most unprofessional to hold forth, in the manner described, the benefits to be derived by so doing.

Mr. GRAY replied to the discussion. He contended that the speaker had missed his point—that the profession should be represented directly on the Board of Governors, so that they could control the practice of the College. In connection with Mr. Hunting's remarks he would like to point out that Mr. Hunting had not been a student at any existing veterinary school, and had not been a student at the Royal Veterinary College; therefore Mr. Hunting did not represent the former students; and as he had not been appointed by the profession he did not represent the profession directly. He seemed more Royal than the King. It might be true that he (the speaker) had "lost his apple," but he would ask Mr. Hunting the significance of the fact that two Governors, former students of the College, had resigned. Why did the College want a grant? He had been given to understand that the London University would not take over the Royal Veterinary College as one of their schools, until the College was properly equipped and had a properly constituted teaching staff. He could not see why the College should get money from the taxpayer, including the practitioner, unless the profession were directly represented. Prof. Macqueen had said that the College had a right to enter into competition with former students; but it was the former students who had kept, and the present students who were keeping, the professors. Mr. Hunting had, in contradiction of the speaker, said that the Royal Veterinary College turned out more students than Dublin, but the figures published in *The Veterinary Record* showed Dublin had 24 students and the Royal College 19; that indicated a declining use of the latter institution. Prof. Macqueen urged that the student did not keep the Professors, but unless the College were carried on in such a way that a good income was being made of cheap competitive practice, he could not see who did keep the Professors. Prof. Macqueen had, moreover, omitted from the statement of the bye-laws, etc., the fact the veterinary surgeon were not subscribers. [Discussion arose on this point, the issue being that Mr. Gray was requested by the President to accept the fact that veterinary surgeons were subscribers]. Continuing, Mr. Gray said that he had no desire that the Royal Veterinary College should go down, provided it did not continue cheap competitive practice. He could not agree with Prof. Macqueen's statement that the College received good fees. Horses of the value of upwards of £250 or more had been fired there, and wealthy clients of his had told him that they could take their dogs there for a sum of 5/- where he (the speaker) wanted a guinea. He was contending not so much for the few pounds a year he might lose as for the principle of the competition. Unless the Royal Veterinary College would yield to reason, he would do all he could to oppose the grant. When the Board of the College—people in a position of affluence—opposed the profession, why should they be considered. He had, at the same time, good authority for saying that he did not think the College would obtain the grant sought. If, however, the Council of the Institution were amended, he would not oppose but help. What was wanted was that the College should take the pro-

fession more into their confidence, especially as the profession had hitherto subscribed handsomely to the rebuilding of certain stables. In saying that the Royal Veterinary College was no longer necessary, the speaker meant that it was no longer necessary as at present constituted; reconstituted and placed on a better basis with a few business men, including some successful and business-like practitioners on the Board to advise the Governors, the College could do good work.

The proceedings were then terminated with the usual votes of thanks to the gentlemen who had exhibited morbid specimens, and to Mr. Gray for submitting his paper.

HUGH A. MACCORMACK, Hon. Sec.

Royal College of Veterinary Surgeons.

FELLOWSHIP DEGREE.

A meeting of the Board of Examiners for this Degree was held at the College, 10 Red Lion Square, W.C., on Saturday, May 18th. The following is a list of the successful candidates, together with the titles of their respective Theses:—

HUGH BEGG,	"Tympanitis in Bovines."
W. A. SIMSON,	"Bovine Pleuro-pneumonia. Lung-sickness."
ALEX. M. MONRO,	"Milk Fever."

The Examiners were Messrs J. Malcolm, W. Hunting, Prof. Macqueen; Mr. Sidney Villar being in the chair.

FRED BULLOCK, Secretary.

ELECTION ADDRESSES.

To the Fellows and Members of the Royal College of Veterinary Surgeons.

Gentlemen,

I beg to be allowed to offer myself again as a candidate for election to the Council of the R.C.V.S.

My opinions as to the absolute necessity of the passing of "The Bill" are as firmly fixed now as they were when you last did me the honour of electing me.

On all other matters, also, my firm desire is solely for the advancement of the profession, and should you again honour me by giving me your votes my whole-hearted services are yours.—I remain, yours faithfully,

WALTER BURT.

Brighton, May, 1912.

To the Fellows and Members of the Royal College of Veterinary Surgeons.

Gentlemen,

I have again been adopted by the Lancashire, Yorkshire, Eastern Counties, and Liverpool University Veterinary Medical Societies as one of their candidates for election to the Council of the R.C.V.S., and this honour I very much appreciate.

As a practitioner for over 20 years, and one who has always taken a lively interest in the welfare of

the profession, I desire once again to state my views on matters of present importance to the profession.

1. I am a strong supporter of the Veterinary Surgeons Bill now before Parliament, for I cannot conceive a better mode of preserving the financial status of the Royal College.

2. Every endeavour must be made to retain the "One-portal" system of entry to the profession.

3. The relationship between the Board of Agriculture and the country practitioner has improved. It is to be hoped this may be further extended.

4. Local Governing Boards—to wit, County and City Councils—are appreciating to a much greater extent than formerly the value of the Veterinary Public Health Officer. This advance in Veterinary State medicine I hail as a distinct asset to the profession and the public. This movement I am prepared to support to the utmost of my power.

Assuring you of my keen interest in the present and future welfare of the profession, and my desire to help forward all movements in the direction of increasing our public usefulness.—I remain, yours obediently,

WALTER PACKMAN.

The Wylde, Bury. May 20.

THE UNIVERSITY OF MELBOURNE.

CONDITIONS OF APPOINTMENT OF PROFESSOR OF VETERINARY PATHOLOGY, AND INFORMATION WITH REGARD TO THE WORK.

Duties.—The Professor will be required :—

1. To devote the whole of his time to the work of his department except in so far as special permission may be given by the Council under Section 10 of Statute V.

2. To administer the Department of Veterinary Pathology giving such instructions by lectures and otherwise, and conducting such examinations as may be provided from time to time by the Statutes and Regulations of the University.

3. Subject to the control and directions of the Council to be Director of the Veterinary Institute; and, if appointed Dean of the Faculty, to exercise a general superintendence over the educational and administrative business connected with the Faculty.

4. To conduct, upon such terms and conditions as may be agreed between the Minister of Agriculture and the University, any investigations in Veterinary matters which the Minister may at any time require to be made, and to report to the Minister of Agriculture the result of any such investigation.

5. To keep himself, as far as practicable, in touch with the Stock interests of the State.

Tenure.—The Professor shall hold his office subject to the University Acts and the Statutes and Regulations of the University.

Should the Professor desire to resign his office he shall give six months' notice of his intention, such notice to terminate on 31st December.

Emoluments.—1. The Salary of the Professor shall be £900 per annum, but in the event of the Council providing the Professor with a house in the University Grounds, the sum of £100 per annum will be deducted from the salary.

2. In addition, immediately on the arrival of the Professor in Melbourne, the Council will, in the name of the University and from the monies of the University,

purchase an endowment assurance on his life, the policy to be payable at the age of 60, or at his death should that event occur previously, and the amount of the annual premium paid for such assurance will be £100.

Information.—1. The Veterinary Institute is situated on a site comprising four acres, close to the University. The buildings include a Research Institute, a Veterinary Hospital, and a surgical ward, with large operating theatre and necessary adjuncts. For the Chemical, Physiological, Biological, Physical and Histological parts of the work, the University laboratories are used. About £12,000 has been expended on the Institute.

2. Salary and duties will begin on the 1st Mar. 1913.

3. If the Professor appointed shall come from outside Australasia, £100 will be allowed for travelling expenses, and a cable will be sent informing him of his appointment. The appointment will probably be made by the Council in August or September, 1912.

4. Candidates must with their applications submit satisfactory evidence of physical fitness, and any candidate whom the Council may propose to appoint must submit himself for examination, and be passed as physically fit by a physician appointed on behalf of the University.

5. Candidates should not be much over forty years of age, nor under twenty-five.

6. Copies of the latest Calendar of the University of Melbourne may be seen at the office of the Agent-General for Victoria, Strand, London, W.C., and at the principal Universities in Britain and America.

5. Applications for the vacant Chair, together with original or certified copies of testimonials and photograph, must be sent to the Agent-General for Victoria, Strand, London, W.C., to reach him by 30th June, 1912. Six copies should be furnished for the use of the Committee of Selection.

Horses in Mines—Home Office and Appointment of Inspectors.

It is officially announced that the Home Secretary is prepared to receive applications for the appointment of inspectors of horses in coal mines under Section 109 of the Coal Mines Act, 1911. Six of these inspectors will be appointed at an annual salary of £125, rising by £5 a year to a maximum of £175. Candidates must be thoroughly experienced in the care and treatment of horses and other animals in mines, and must have had practical acquaintance with the conditions under which work is carried on underground. The prescribed age for candidates is between 30 and 40 years. The appointments will be made by the Home Secretary on the advice of the Board for Mining Examinations, subject to a qualifying examination.

Applications must reach the Home Office before June 30th, 1912. Particulars as to the appointments and forms of application may be obtained from the Private Secretary, Home Office, Whitehall, London, S.W.

ARMY VETERINARY SERVICE.

We regret to report the death on May 1st, in Bombay, after a short illness, of Colonel John Anderson, retired pay, Army Veterinary Service, at the age of 73 years.

He had a distinguished career, was appointed to the Army Veterinary Department at the beginning of 1860, went out to New Zealand and served for six years in the tediously prolonged Maori War, including the Taranaki and Waikato campaigns. He was mentioned in despatches and received the medal. In 1867-8 he was with the Abyssinian Expedition. He formed and had charge of the sick depots at Koomayloo and

Pioneer's Wells, and was three times employed on special service. Here again he was mentioned in despatches and received the medal. He had a like award for the Afghan War, where he served with the Kurram Field Force, and afterwards the Khyber Line Force as Inspecting Veterinary Surgeon. In the Egyptian War of 1882 he was Principal Veterinary Surgeon with the Indian contingent, being present at the battle of Tel-el-Kebir and the capture of Cairo. He received the medal with clasp and the Khedive's Star. He was well known in the racing circles in the west of India, where he enjoyed a wide popularity.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, May 17.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. E. Brown is restored to the establishment with precedence next below Capt. J. J. Aitken. Dated May 18.

May 21.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. (Hon. Vet. Lieut. in the Army) H. G. Westgate resigns his commission. Dated May 22.

Maj. H. M. Lennox Conyngham arrived from India on six months leave of absence on 13th inst.

Capt. E. Brown has joined at Woolwich for duty on being restored to the establishment.

Capt. W. J. Dale has been transferred from Shorncliffe to Windsor for temporary duty with the 1st Life Guards.

Lieut.-Col. E. Taylor, Inspecting Veterinary Officer Central Circle, arrived from India on 9th inst., on four months and fourteen days leave.

EXTRACTS FROM STATISTICS OF RUSSIAN VETERINARY MILITARY SERVICE FOR 1909.

The mean strength was 187,957 horses, and of which 71,370 were treated in hospital. Of these 103% died, and 22% were destroyed. The above only includes the actual sick treated in hospital, a large number of cases were treated regimentally, and of these 46% died.

There were 326 cases of glanders; anthrax caused 209 deaths out of 221 attacked; 12,883 horses were vaccinated against anthrax, and one died from the operation.

There were 1627 cases of influenza, and 1457 of pleuropneumonia.

Personal.

Our readers will remember Mr. Leach's serious motor car accident. In addition to a dislocated femur there was a grave complication in the form of injury to the sciatic nerve. Mr. Leach is now able to get about again, the nervous control is becoming gradually more marked, and his medical advisers hope that in a short time he will have regained his strength and activity.

OBITUARY.

JOHN ANDERSON, M.R.C.V.S., Indian Veterinary Service—retired. Graduated, Lond: et Edin: Dec. 1859.

We regret to announce the death of Col. John Anderson, which occurred at his residence in Byculla yesterday (May 1st) after a short illness. Col. Anderson, who had been in this country for nearly forty years, was particularly known in this presidency and other parts of India in sporting circles, and at one time kept large training establishments at Poona and Bombay, his patrons being gentlemen of high standing connected with the Turf. His services were requisitioned by the Bombay Tramway Company when there was an outbreak of surra amongst their horses, and the successful way in which

he dealt with the disease earned him the thanks of the Government. He leaves a widow, in Europe, and several sons and daughters, one son being Capt. M. H. Anderson of the 33rd Bengal (Queen's Own) Light Cavalry, stationed at Secunderabad, and another who is a Police Superintendent at Mombassa, British East Africa.

Col. Anderson was buried at the Sewri Cemetery with full military honours. The funeral cortège consisted of a party of 200 men, rank and file, of the Royal Warwickshire Regiment with band and drums, who met the procession at the Elphinstone Road station, having come from Colaba by train. At the cemetery were many of the late Col. Anderson's friends. The coffin was covered with the Union Jack, and embedded in wreaths and crosses.

After the funeral service, three volleys were fired, the buglers sounding the Last Post. So passed away another old resident of Bombay.—*The Advocate of India*.

Mr. J. Crawford, Bombay, to whom we are indebted for the foregoing, writing under date May 3rd, adds:—

"I would say, in addition, that I think the profession has suffered a great loss by the death of Col. Anderson, who was a venerable, kindly old gentleman of the old class, and one of the most popular members of the profession that has ever been in India."

THOMAS FLETCHER, M.R.C.V.S., Scarborough.

Lond: May, 1855.

Mr. Thomas Fletcher, well known in Sheffield and district for a long period prior to his retirement ten years ago, died at his residence, 46, Westbourne Park, Scarborough, on Wednesday, May 15th. Mr. Fletcher, who was 83 years old, was a native of Newborough, near Peterborough, and after graduating in 1855, practised in Lincoln, and subsequently at Bath. He came to Sheffield in 1868, and established a practice in Ellin Street. Mr. Fletcher took a prominent place in his profession, and was for some years president of the Yorkshire Veterinary Surgeons' Association. He was very well known amongst the farmers in the neighbourhood of Sheffield, and highly respected. In 1891 he extended his practice to Hillsborough, and devoted himself to that branch, leaving his Ellin Street practice in the hands of his son, Mr. T. C. Fletcher. Mr. Fletcher, senr., continued at Hillsborough until 1902, when he retired, and went to live at Scarborough.

He leaves a widow, five sons, and one daughter. His eldest son is Dr. H. P. Fletcher, J.P., of Dronfield, and his second son is Mr. William Fletcher, manager of the Sheffield Billposting Company. Besides Mr. T. C. Fletcher, another son—Mr. Walter Fletcher—is a veterinary surgeon, and practices at Wrexham. The funeral took place at Scarborough on Saturday, 18th.

WILLIAM TAVERNER, M.R.C.V.S., Newton Abbott, Devon
Lond: March, 1882.

Mr. Taverner had practised as veterinary surgeon in the district upwards of thirty years, and was well known and respected. Three years ago he had an attack of heart trouble, but recovered sufficiently to continue his work. A few days since he had a recurrent attack, which was not thought to be serious, but complications set in and he died on Monday, 20th inst. He leaves a widow and two children. Mr. Taverner was a member of the Newton Abbott Race Committee, and was hon. veterinary surgeon at the race meetings, and also for the Newton Fat Stock Annual Show. He also acted in a similar capacity at the Devon Show at Newton last year. He was formerly a noted breeder of foxterriers, but of late years had taken up horticulture and bowling as hobbies. He had little leisure, however, for he was devoted to his profession, and was an extremely busy man. Towards the end he was a great sufferer. Mr. Taverner was 53 years of age.

CORRESPONDENCE.

THE CLAIMS OF THE VETERINARY PROFESSION FOR RECOGNITION.

Sir,

Nobody appreciates true science more than I do. But I certainly think too much is made of those who have discovered a new bug, determined its species and studied its anatomy. Such an one would perhaps be admitted a Fellow of the Royal Society, receive the LL.D. of Oxford or Cambridge, or some other university, and when he died, have his remains interred in Westminster Abbey, or a bust erected to his memory in the Natural History Museum. On the contrary, if one discovered a cure for cancer after every one of the scientific investigators had failed, would he be received into any learned society or recognised as a scientist? No, his results would be so practical, easily adopted and readily understood.

Moorecroft, a graduate of the Alfort Veterinary School, introduced the neutrectomy operation; James Turner discovered the true seat and nature of the lameness now known as navicular disease, and defined its diagnosis; Gamgee prophesied the introduction of cattle plague and speedily advised the course of treatment it required; Chauveau demonstrated the particulate nature of virus; Chauveau and Gerlach demonstrated the ingestion theory of tuberculosis; Bang exploded the hereditary theory of tuberculosis, demonstrated the virus of epizootic abortion and the possibility of a preventive inoculation; Thomassen discovered a certain cure for actinomycosis; Smith and Kilborne worked out the part the insect played in the transmission of piroplasmiasis (five years before Ronald Ross did that of the mosquito), and many others have rendered an account of equally successful results in veterinary practice; but have any of them received that recognition which is justly their due?

Schmidt has done agriculture all over the world an everlasting service; he has unselfishly thrown open his discovery, which will be the means for all time of saving millions to agriculture. Before his time the loss of efficient dairy stock must have been enormous. Unlike contagious diseases, which can be eradicated, milk-fever will always be with us; but now, thanks to Schmidt, it is robbed of its terrors. His services to practical veterinary medicine and to agriculture are as relatively great as Jenner's were to human hygiene when he popularised preventive inoculation against small-pox. Jenner, however, did not discover the method but only defined it. Schmidt did discover his method, which is now so simple in application. Jenner's memory has been greatly honoured. Schmidt has not as yet been recognised in a manner suitable for the benefits conferred. Even the R.C.V.S. and the Royal Agricultural Society of England have not conferred any distinction upon him. Practical veterinary surgeons acknowledge their indebtedness to him, but only silently.

The veterinary profession is not recognised by the leading learned scientific societies in this country. There is not one of our members a Fellow of the Royal Society. The late Professor Coleman is the only one who has had that distinction bestowed upon him; but he was *persona grata*, and an intimate friend of many composing that most autocratic corporation.

Surely the day should not be far distant when some unselfish member of the profession could arise and press forward our claims for scientific distinction. At least a few of our number deserve it. We must not, however, be too selfishly narrow-minded, which is the canker-worm of social progress. Great minds are usually large-souled and modest, and recognise the merits of those below their own level. The opposite easily degenerate and look with disdain on men of other thought or other ways. All knowledge, skill, or action is only relative. A clever navvy is as relatively clever as a clever scientist or practitioner of any science or art.

"HIPPOCRATES."

VETERINARY CINEMATOGRAPHY.

Sir,

Mr. Hamilton Kirk's article on the above is a good one, and is not one to be dismissed as ridiculous. It would be welcomed by those students who have not had the chance or the means of seeing the routine of a busy everyday practice. The average student knows how to handle the various domestic animals, but there are always exceptions to the rule. I have known of a M.R.C.V.S. who did not know how to pick up a horse's fore leg—this of course is an exceptional case. I think that Nos. 1—16, that Mr. Kirk quotes as subjects, are really well worth considering. No. 17 I am not in favour of. I am of opinion that in this case the student will recognise the poisonous plants and grasses when he actually sees them growing in nature far better than if thrown on a screen, and if this were adopted the costly colour cinematography would be essential, if anything nearing perfection was to be realised. The only real method of learning botany to remember it is to study it from the actual living plants.

The amusement tableau could be eliminated altogether. Cub, hare, stag and fox hunts will not help the student in his educational routine, and after all, if amusement is wanted, all the subjects quoted are usually to be seen at the numerous halls with which London is studded.

One thing is quite evident, the student would learn as much, if not a great deal more, than he does at the present form of V.M.A. meetings, if this idea was adopted.

Mr. Kirk goes a bit too far when he suggests every V.M.A. meeting. It would have been better to have suggested every other V.M.A. meeting, leaving the ones in between for the usual essays and discussions. Yours faithfully,

R.V. Coll., Camden Town.

J. F. D. TUTT.

Mr. Hamilton Kirk's article, which was probably suggested by a report in the daily papers about a month ago of some Medical meeting at which there was an exhibition of films depicting the early life of microbes, shows how little consideration he has bestowed on the subject. There certainly is a limit to such an enterprise, and that a narrow one—expense.

The three chief organs by which knowledge is gained are the ear, the eye, and the hand. I agree with him that the eye is better than the ear, but, when it comes to "handling" anything, *neither* of the first two is any good without the last. Does he wish us to imagine that, when a student has witnessed films showing how animals are managed under various circumstances, he is competent as regards the "practical side of the business."

In the medical profession the kind of animal to be treated is the same in the country as in the town, so the student can study everything in the town. Unfortunately, in our profession this is not the case. But, instead of the R.V.C. going to the expense of keeping animals under unusual conditions, surely it is better for the student to go into the country and study them in their natural surroundings.

The minimum time for a student to be at college is four years, and some are there much longer. If we reckon the total vacation for one year at 20 weeks, it gives the most "brainless" student at least 80 weeks in which to learn the practical country business. Certainly many a student who obtains his diploma is sadly lacking in practical knowledge, but this would be best remedied by a license to practise only to be issued to such as can show that they have had a certain minimum of experience under fully qualified practitioners. In other words "Compulsory Pupilage."

As regards the pictures mentioned, most of them illustrate the text books on the various subjects—a fact that Mr. Kirk does not seem to have noticed. As a general rule the operator must be facing the part operated upon, and so the film would illustrate the movements of his posterior more than anything else. How could it be applied to the extraction of teeth? Would the camera be in the animal's mouth? The instruments used in dental operations can be seen at the manufacturers or in their catalogues.

In parturition cases, as soon as there was anything to photograph the chief part of the operation would be over. (12) Meat inspection can be best studied at a public slaughter-house. (13) "Improvised" means "on the spur of the moment," and is therefore a test of the student's ingenuity rather than of his memory. (14) Why not go to the railway depots and the docks (The numbers refer to Mr. Kirk's article).

From the amusement point of view, twelve out of the thirteen mentioned can be seen for the moderate outlay of 3d. at the different legitimate picture palaces. In consideration of the state of the finances of the R.V.C. it would be extremely foolish for it to go to the expense of providing a cheap cinematograph entertainment, and so run the risk of a resolution being passed by the managers of all places at which living pictures are shown requesting powers to prevent the R.V.C. underbidding them.

Mr. Kirk evidently has a preference for secondhand knowledge. Why not go to the annual athletic sports, race meetings, whippet races, etc.? Does he consider it would be too great a tax on his energy? This would explain why he wishes to learn his practical business sitting in a chair—doubtless dreaming of further schemes of endless scope for reducing the students' manual labour to a minimum.

—Yours truly,

ANOTHER CLASS "D" STUDENT.

R.V. Coll. May 23.

Sir,

I have read with interest and amusement Mr. Hamilton Kirk's advocacy of the cinematograph as a teaching medium. Mr. Kirk is young, and enthusiastic, and on both scores he has my admiration. But in the matter of his arguments we must agree to differ—at least for the present. Person-

ally, I look upon all such "aids" as being of the nature of cram, and therefore as a mischief rather than a blessing. I have put in my half century, and I am drawing towards the end of my working days, but I have still a tolerably clear recollection of my first steps from the protection of my teachers to "going on my own"—how helpless and hopeless I felt until I had done enough to be able to bring into use the knowledge which I had previously acquired.

A man who has gained some amount of dexterity by practice, and is not yet case-hardened in the belief of his own superior skill, may well benefit by seeing a more skilful operator at work. For the neophyte there is less to be gained in this way. Surgical demonstrations are not rare at our Society meetings, but if there are twenty men present, how many of these can see sufficient of the details to get the whole of the information offered? Perhaps four or five; probably not more than two. How many serious operations are there which will give us all the information we want through the film on the cinematograph?

No. The man who means to become a surgeon *must do the operations*, then he can begin to compare his work with that of other men, to select and to reject, to improve and to invent. Lectures, text-books, cinematographs, demonstrations even, are little more than spoon-feeding.—Yours faithfully,

SOUTH COUNTRY.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of the writers, not necessarily for publication.

Communications for the Editors to be addressed 30 Fulham Road, London, S.W.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth-Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended May 18	11		13				3	4	36	66		73	805
Corresponding week in	1911		18				4	9			2	70	640
	1910	33	40				6	20			2	37	553
	1909	19	21				15	49			7	48	378
Total for 20 weeks, 1912	435		488				69	148	1878	4243	157	1341	16860
Corresponding period in	1911	392	482		1	18	82	234			296	933	10041
	1910		620	764			146	360			307	483	4496
	1909		571	761			249	971			440	654	5992

Board of Agriculture and Fisheries, May 21, 1912

† Counties affected, animals attacked: Hertford 3, London 1.

IRELAND. Week ended	May 18	Outbreaks						2	6	74
		1	1	...	...	...	...
Corresponding Week in	1911	...	...	...	...	...	...	3	2	4
	1910	...	...	...	...	...	...	8	5	12
	1909	1	1	...	...	...	...	1	2	...
Total for 20 weeks, 1912		2	2	...	...	...	...	37	250	1002
Corresponding period in	1911	5	5	...	...	1	2	38	231	816
	1910	4	6	...	...	1	2	33	320	831
	1909	3	3	...	...	...	...	42	265	143

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 20, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection.

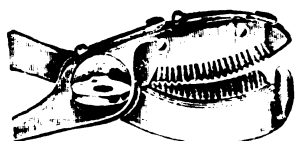
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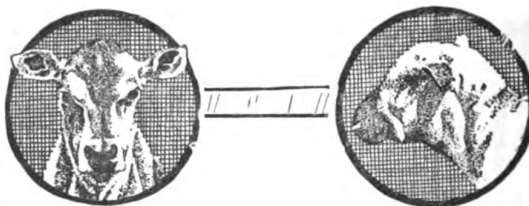
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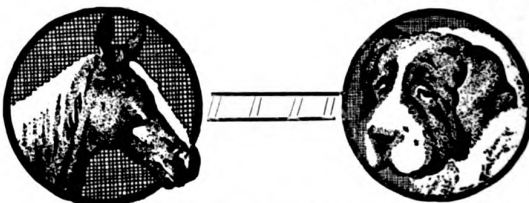


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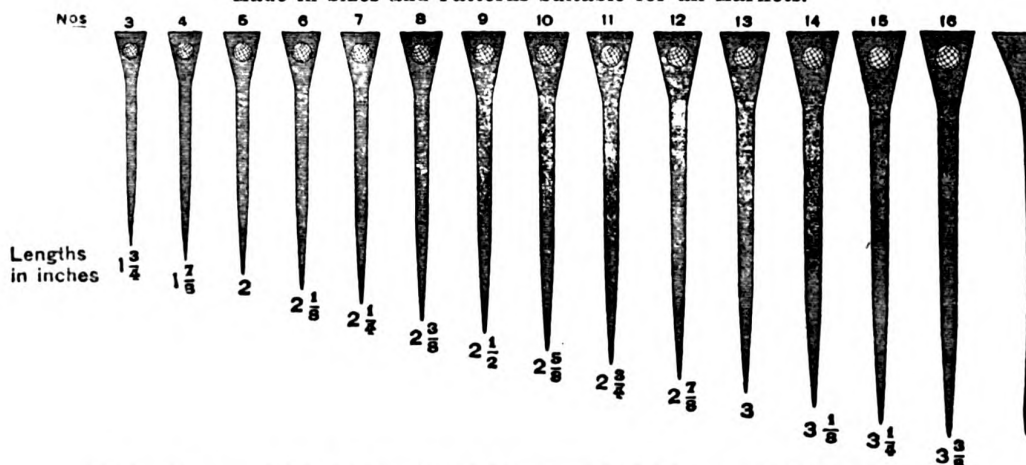
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These Advertisements will not be inserted unless prepaid, and if replies are to be received at this office an extra sixpence must be included.

The Central Veterinary Society

A General Meeting of the Society will be held at 10 Red Lion Square, W.C., on Thursday, June 6th, at 7 o'clock. Agenda. Routine business. Election of delegates, R.S.I. Congress, York. Mr. R. F. Wall's Communication re Civil Veterinary Surgeon's Fees as allowed by the War Office. Impromptu discussion.

HUGH A. MACCORMACK, Hon. Sec.

Lancashire V.M.A.

THE Quarterly Meeting will be held at the Grand Hotel Aytoun Street, Manchester, on Thursday, June 6th. The President, J. W. Brittlebank, Esq., in the chair. Meeting, 4-30 p.m. Dinner, 6 p.m. Agenda. Routine: An address on "Vaccine and Serum Treatment in Veterinary Practice."

Members are invited to bring cases of interest before the Meeting.

G. H. LOCKE, Hon. Sec.

Victoria Veterinary Benevolent Fund

THE Fourteenth Annual Meeting of the Members will be held in the Lecture Theatre, Leinster House, Kildare Street, Dublin, on Wednesday, 5th June, immediately after the Annual Meeting of the Royal College of Veterinary Surgeons.

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To Veterinary Surgeons

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R.V.C. Annual Athletic Sports

THE Sports will be held at the Tufnell Park Athletic Ground, on Wednesday, June 12th, at 2 p.m. All members of the profession and their friends are cordially invited. Tickets for admission (free) may be had from E. BRAYLEY REYNOLDS, Hon. Sec., R.V. Coll., Camden Town.

Assistantship

M.R.C.V.S., experienced and practical, seeks assistantship, permanency, or locum. Good references. Address, 1061 V.R., 20 Fulham Road, London, S.W.

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THE IMPORTANCE OF THE REGISTER.

This week we publish some police court proceedings strikingly illustrative of a truth which not a few veterinary surgeons somehow still persist in ignoring, viz., the supreme importance of the Register as evidence of membership of our profession. A witness's allegations of previous qualification count for little if the current Register is produced and his name is absent from it. Neither would the production of a diploma be of avail—there is no mention of a diploma in the Veterinary Surgeons' Act of 1881, which gave the Register its present authority. Section 9 of the Act reads as follows: "A copy of the Register of Veterinary Surgeons for the time being purporting to be printed and published in pursuance of this Act shall be evidence in all cases (until the contrary be made to appear) that the persons therein named are on the Register of Veterinary Surgeons; and the absence of the name of any person from such copy shall be evidence (until the contrary be made to appear) that such person is not on the Register: Provided that in the case of any person whose name does not appear in such copy a certified copy under the hand of the Registrar of the entry of the name of such person in the said register shall be evidence that such person is on the said register." The last sentence merely safeguards men whose names have very recently been placed or replaced upon the Register. The preceding one establishes the authority of the Register upon the qualifications of any veterinary witness. The case we report is one instance of what may happen to any member who neglects to inform the Registrar of his whereabouts. No doubt the consequences of such neglect may be very unpleasant and serious; but in every case they might have been avoided so easily that it is impossible to feel much sympathy for men who incur them.

FEES OF VETERINARY INSPECTORS.

Early this month, we alluded to the South-Eastern V.M.A.'s attempt to improve the fees of veterinary inspectors in Kent. The result of that attempt will be worth watching. At the Society's recent meeting, reported in our last issue, a revised scale of fees was agreed upon, which a deputation was appointed to lay before the County Council.

The movement may be wholly or only partially successful; but one point should be remembered—whatever measure of success it does gain will be largely, if not altogether due to combination. Veterinary inspectors in other counties might well make careful comparison of the Kentish conditions with their own, with a view to possible action upon the same lines.

SUBACUTE OBSTRUCTION OF THE PELVIC FLEXURE.

I am led to record this case because of its comparative rarity in the particular class of animal of which this note was the subject. So eminent an authority on colic as Mr. H. Caulton Reeks remarks "I have not yet met with a case in a nag animal."

History. The animal in question was an aged thoroughbred mare, the private charger of an officer. Had been kept in the stable for a few days previous to the attack, on account of some slight indisposition. She had been fed on oats, bran, and hay in the usual quantities.

The animal was taken ill at 11 a.m. on the 19th with dull pains, she was slightly tympanitic, and occasionally passed small quantities of faeces. She received—R Ol. tereb. $\mathfrak{z}\text{i}$., Ol. lini. Oi. Later, Chloral hydrate $\mathfrak{z}\text{i}$. was given, and as no progress was made I was called to see her at 1.30 p.m. on the 19th.

At this time she was dull, occasionally walking round the box, then lying down fully stretched, but showing no symptoms of acute pain. Pulse full and regular. Temperature normal. Membranes a good colour, not injected. On exploration, the rectum was found ballooned, and a very little way inside was a large mass filling up almost the whole of the pelvic cavity—undoubtedly an impaction of the pelvic flexure of the colon.

I tried to give the mare an intestinal irrigation with the hose pipe, but she would have none of this. Administered in bolus R P. amm. carb. $\mathfrak{z}\text{ii}$., P. nucis vom. $\mathfrak{z}\text{iv}$. Later, when the animal was down we succeeded in throwing up several buckets of water into the bowel with a Read's pump. This was not retained, but was not violently expelled. Result—a few pellets of dung.

3.20 p.m. Gave R Am. carb. $\mathfrak{z}\text{i}$. (bolus). Cold water enema as before, no result.

5.45 p.m. Injected subcutaneously Eserine 1 gr., one small motion, fluid faeces. This was followed up with a cold water enema, no result; emptied bladder with catheter.

6.45 p.m. Administered—

R	Spts. ammon. aromat.	$\mathfrak{z}\text{ii}$.
	Tinct. nucis vom.	$\mathfrak{z}\text{iv}$.
	Ol. tereb.	$\mathfrak{z}\text{ii}$.
	Ol. lini	Oj.

Long intervals of apparent comfort, starting up periodically, and looking at flank; gave another enema—several buckets as before. Very little result. Found the impaction very slightly softer.

8 p.m. Injected Eserine, 1 grain. Very much flatus, otherwise little result. More enemas; this

time the water was hot, and the animal seemed very comforted by its injection. Result, a little fluid fæces.

10.20. I had been away since 8.45. Long comfortable periods, with occasional restlessness was reported. Pulse good, membranes unaltered. Gave R. Am. carb. $\mathfrak{z}\text{ii}$., P. nucis vom. $\mathfrak{z}\text{iv}$. in bolus.

20th., 12.20 a.m. Hot water enemas given. Passage of considerable flatus. No fæces. Passed catheter, micturition was completed by animal itself. The greater part of the bowel contents were in a liquid state by this time and could be "squelched" by pressure in the flank. The abdomen was massaged. The mass in the rectum is now withdrawn somewhat, and is decidedly softer. Contents of pelvic flexure could be kneaded with the fist. The mare took a drink of water.

Administered Am. carb. $\mathfrak{z}\text{i}$. (bolus). The animal lay down and scarcely moved for an hour.

3.20 a.m. More hot water enemas—five buckets. One was struck with the apparent relief of the animal during the injection. The hand in the rectum was now able to push the mass on, right into the abdominal cavity to freely handle and knead it. The animal was standing, and did not resent this in the case. Following, long quiet periods only broken by the expulsion of large volumes of flatus.

5.45 a.m. Administered Aloes $\mathfrak{z}\text{iv}$. (bolus). Having been with the animal sixteen hours or so I then left with instructions for hot enemas, etc., and to administer Am. carb. $\mathfrak{z}\text{i}$., nux vom. $\mathfrak{z}\text{iv}$. at 11.30 a.m.

3 p.m. I saw the mare again, good pulse, membranes very little altered, no rise of temperature, a little restless sometimes, usually very quiet and dull.

4.15 p.m. Administered Ether $\mathfrak{z}\text{ijss}$.

6 p.m. Condition unchanged. Left instructions with reference to enemas, etc.

21st. 9.30 a.m. Reported very quiet night, has not lain down at all. No motion of the bowels. Pulse is strong, membranes and temp. normal.

10 a.m. Had the mare walked out. Passed a large semi-solid motion.

12 noon. Passed a large motion. After this recovery was uninterrupted.

I consider recovery would have taken place earlier had the aloes been administered before. That the stimulants were doing their work, and doing it well, was shown, however, at 12.20 a.m. q.v. on the first night.

J. R. HODGKINS, Capt. A.V.C.

Dundalk.

SADDLES.

The recent article and illustration of a saddle devised by Major Eassie, A.V.C. to remove the possibility of saddle galls has undoubtedly given rise to much interest.

The horse was first driven in a sort of curriole harness in pairs, in front of a springless two-wheeled chariot, which afforded a very uncertain position for the charioteer.

The Libyans, a fierce tribe inhabiting Northern

Africa, seem to have been the first in the then known world to discover that they could control the horse better from his own back than from their precarious perch in the chariot, and they forthwith became the first cavalry of which we have record.

Some, however, would award this honour to the Persians, who were a nation of horsemen, as it is known that Xerxes, employed an immense body of cavalry at the invasion of Greece. The Sagartians, a nomad tribe, who are said to have understood and practised the use of the lasso, supplied 8,000 horsemen for the Persian army on this occasion. If one may judge from reproductions from stone and papyrus, the first saddles were merely a form of saddle cloth. The cavalymen would quickly learn to fold the cloth thin over the spine and thick immediately on each side of it, so as to prevent pressure on the horse's spine, or injury to the end of the rider's backbone, because in all ages and in every country, the main principle of saddle construction has always been and must remain the same: to introduce a medium between the horse and his burden (it does not matter if the burden be a horseman or goods) whereby the weight of the latter may be transferred to the horse and distributed so as to cause the smallest amount of inconvenience or injury to either. This applies also to harness, pads, rollers, surcingle, and anything bearing weight that crosses the back of a horse.

Now the difficulty lies in the application of this principle, because the back of the horse is irregular in shape and not well adapted for continuous weight carrying. A considerable part, the withers and spine, are so sensitive that very little pressure or friction may cause such injury as to incapacitate the horse from service while the injury lasts, to say nothing of the pain endured by the horse.

The first essential then in all saddle construction, although of a negative character, is vital, and it is that no weight or pressure should be allowed to bear on the withers or spine for a space approximating in front at the wither 3in. from each side of the centre line, and similarly 1½in. at the short ribs behind according to the shape of the horse.

The only part of the horse's back capable of continuous weight-carrying lie immediately outside of, and away from the space mentioned, so far as the configuration of the horse's back denotes weight-bearing capacity, between the blade bones in front and the short ribs behind. Within these limits, the greater distribution of weight over as large a surface as possible the better for the horse. The exception to this rule is in short distance racing only, where it has been found that the best results in speed are obtained by concentrating weight well forward, in the style of seat practised by Tod Sloan, the American jockey. The tissues here are not so sensitive, and a properly fitting saddle can be carried, bearing a rider's weight, day after day, without injury to the horse, given a certain amount of intelligence on the part of the rider. Continuous dead pressure anywhere will result in sores, because the circulation is thereby stopped, and if stopped long enough, injury and mortification will result. This applies to everything that lives. Therefore a good horseman

seizes every opportunity of dismounting, and when possible, also slackens the girths.

During the visit of the Indian Cavalry to this country at the time of the Queen Victoria Jubilee in 1897, it was noticed that they dismounted whenever possible, whereas our own Cavalry and mounted Police seemed to think it to be their duty to stick on until they became so cramped that they could hardly dismount.

It appears that in very early times saddles were built on saddle-trees in every country throughout the world, with the one notable exception, that of the South American Gaucho's saddle, which, for the work required of it, was almost perfect. Saddle trees are therefore essential except, perhaps, for very light weights and short spells of work, such as might be expected from exercise work only.

All saddle trees consists of four members, a front arch, a rear arch, and two side bars. The side bars should be shaped so as to coincide as nearly as possible with the curvature of the horse's back, making allowance for any stuffing or other medium to be placed between them and the horse. This medium should be no more than is necessary, because, as every horseman knows, the nearer he is to his horse the better his seat, and therefore the better his control of the animal. The arches which connect the side bars fore and aft should be strong enough to resist the tendency to open, which the wedge shape of the horse's back causes in wear, and they should be made so as to clear the withers and spine under every conceivable circumstance. This is the true essence of saddle-tree construction. With regard to the medium to be placed between the saddle tree and the horse's back, that is usually wool, in serge or leather linings, but other materials such as horse-hair or pulverised cork are frequently used successfully. Folded blankets or felt are excellent because of their evenness. No one article can be described as the best for every purpose under all circumstances, but the essential to aim at in every case is evenness of surface; softness of itself being of secondary importance, and a desirable quality mainly because it neutralizes defects and inequalities of fitting in the tree, and so assists in the more perfect distribution of weight.

One is struck by the remarkable resemblance between the saddles of countries so far apart as Mongolia, the Jordan, and Mexico. In all three, rawhide plays an important part in strengthening the tree, in place of plates and rivets. The shrinking power of this article during evaporation is almost beyond belief until tested.

The Arab saddle, the most picturesque of them all, has a high horn in front and a high cantle behind. The Mexican saddle bears a marked resemblance to it in that respect, and is almost equally beautiful, while more perfect for the work required for it. The Mexican uses the horn of his saddle for his lasso, round which he makes a turn with it, after having successfully secured the steer, and he then pays out as the strain comes. The Arab does not know the use of the lasso, although it is stated that its use is not only known but practised in some parts of our Indian Empire.

The Arabs probably obtained their first knowledge of horsemanship from an earlier civilisation in the East. They improved on their gear, and took it with them to the West early in the seventh century, when they conquered the Moors and Berbers of Mauretania. When the Moors in their turn conquered Spain early in the eighth century they took their horses and saddles with them, and the Spaniards again took them to Mexico when they in turn conquered that country in the 16th century.

An examination of the Arab bit as it is found in the Soudan, Nigeria, and Morocco as compared with the native Mexican bit would seem to conclusively prove its correctness, as they are different from any other bits in the world; while the peculiar curb shows that they are unmistakably the same family. Nor is this persistence of type so very strange when we consider that in the East ploughing is yet done in the very earliest primitive fashion.

That saddles occupied a much higher position in the economy of the State, relatively, in older times than they do to-day is well known. Without the aid of the saddle Alexander could not very well have conducted his campaign with such success as followed his arms, nor could the Roman Eagles have flown so far.

The saddle invented by Major Eassie is said "to protect the back in such a way that horses that are even suffering from injuries may continue at work without retarding the healing of the part." As it was observed at the time of the illustration and article, by the Editor of this Journal, it is most ingenious, and let us hope that it will be an infallible preventive of saddle injuries, that are of more concern to Cavalry than any other thing.

J. F. D. TUTT, Class B.

R.V.C., Camden Town, N.W.

SOUTHERN COUNTIES VETERINARY SOCIETY.

The thirty-first annual meeting was held on Tuesday the 14th inst., at the Royal York Hotel, Brighton, when the President, Mr. W. Hunting, was in the chair, and the others who signed the attendance book included Messrs. A. H. Archer, Southsea; J. T. Angwin, Arndel; W. Burt, junr., Brighton; G. W. Bloxsome, G. H. Livesey, Hove; J. B. Dier, F. Marks, East Grinstead; J. H. Lockwood, Brighton; R. Roberts, Tunbridge Wells; W. Shipley, Great Yarmouth; P. J. Simpson, Maidenhead; S. H. Slocock, Hounslow; F. G. Samson, Mitcham; H. Smith, and J. Alex. Todd, Hon. Sec., Worthing, together with Mr. H. E. Brookman and Mr. F. Hunting (visitors).

On the proposition of Mr. Slocock, seconded by Mr. Roberts, the minutes of the last meeting as published in *The Veterinary Record*, were taken as read and confirmed.

The HON. SECRETARY announced that apologies and expressions of regret at inability to attend had been received from Major General Fred Smith, Professors F. Hobday and G. H. Wooldridge, London, and Messrs. R. Burt, E. Whitley Baker, A. L. Butters, W. Caudwell, W. Coveney, W. A. DellaGana, E. R. Harding, H. H. Jeffries, J. B. Martin, P. Perkins, G. Parr, C. Pack, H. Redford, C. Roberts, C. H. Spurgeon, F. T. Walder, and A. Whicher.

CORRESPONDENCE.

The HON. SECRETARY submitted a letter from Mr. A. H. Archer, enclosing copies of two letters which he had received from the Scientific Department of the H. K. Mudford Co., Philadelphia, relative to the paper which he read at a recent meeting of the Society on the Causes of Milk Fever. Mr. Archer wrote that he thought the fact that their puny efforts sometimes exercised much more influence and became spread over a wider area than they anticipated or realised, might be both gratifying to the members of the Society and also act as a stimulus to further effort.

Mr. ARCHER remarked that since he forwarded these two letters to Mr. Todd he had received two or three further communications on the same subject, and also a copy of the *American Veterinary Review*.

A letter was read from Mr. T. Faithfull Davies, calling attention to an International Congress on Comparative Pathology which would be held at Paris in October next.

Mr. William Shipley, of Great Yarmouth, had written a letter appealing for support for the Victoria Benevolent Fund, but the President suggested that inasmuch as Mr. Shipley was present at the meeting, he could not do better than invite him to amplify the contents of his written communication.

Mr. SHIPLEY, in responding to this invitation, said that he thanked them very much for the opportunity they had afforded him of saying a word for this deserving fund. It was only recently that he had been appointed Secretary, and on going through the books he had been very much surprised to see how few subscribers they had got in the Southern Counties. Their Society had been very good in voting them a subscription every year, but he was rather afraid that subscription had been the means of stopping a lot of individual effort, because he found they only had four subscribers in Sussex, four in Surrey, and four in Kent, while Hampshire did not appear to give them a single one. It was pitiful the amount of distress which existed and which ought to receive proper recognition at the hands of the profession. He was pleased to say they were slowly increasing their income and last year it amounted to about £180, with which they were relieving twelve pensioners, but this was not nearly what they ought to have as a Society if they were to deal with all the calls that were made upon them. At the present time they had one old practitioner living in the Southern Counties who would be practically destitute if it were not for the little assistance this Society was giving him until such time and the probability of an old age pension. He had also had the widow of another veterinary surgeon in the Southern Counties recently appealing to him, and who they had been unable to help for the simple reason that they had not got the funds. What he would like to see was the receipt of a sufficient income every year to give cases like this at least 10s. a week, and surely that was little enough for a widow with five or six children, or a man whose health had broken down in practice. He felt certain that if they could only realise the amount of distress which existed they would one and all willingly become annual subscribers. Their present income as he had stated was about £180 a year, but they wanted at least £380. There was another thing he would like them to do, and that was if any of them knew of any deserving cases they would bring them to the notice of the Society, although he was afraid that until their income increased they would not be able to do much more than they were now doing.

Mr. LIVESEY asked if Mr. Shipley could tell them how much of the Society's income, if any, was derived from investments.

Mr. SHIPLEY replied that their income from investment was £57 a year, but they felt that they ought to

carry on their work on a permanent subscription list, leaving the dividends or interest from any investments they might have free for meeting any special cases. For instance, only recently they had a case of a widow in the West of England who was left with an income of about £50 a year derived from property, but the Sanitary authorities stepped in and demanded alterations, and other work which swallowed up the whole of that income for one year, and they had to make the woman an immediate grant.

The PRESIDENT remarked that he was sure Mr. Shipley's appeal required no words from himself to commend it to them, and he hoped he would get several more subscribers.

CONGRESS OF THE R.S.I.

On the proposition of Mr. Roberts, seconded by Mr. Slocock, it was decided that Mr. Archer should attend as representative of the Society, and that he should be offered a sum not exceeding four guineas towards his expenses.

Mr. ARCHER, in acknowledging his appointment, remarked that it would give him great pleasure to attend as their representative, and he would do his best to make it as profitable as possible for the Society from an intellectual point of view.

Mr. ROGER DE COVERLEY MOORE, of Fareham, was proposed for election as a member at the next meeting by Mr. Archer and seconded by Mr. Roberts.

HON. SECRETARY'S REPORT.

Four meetings of the Society have been held during the past year, namely, at Brighton on the 30th March; at Portsmouth on the 13th July; at Aldershot on the 28th September; and at London on the 6th December. The Attendance Book shows the following numbers: 12, 13, 23, and 21 respectively, or an average of 17.2 per meeting. The Aldershot meeting was rendered particularly interesting by the kindness of the General Officer Commanding in Chief (Aldershot Command) in affording an opportunity for the inspection of the Army Veterinary School, and the members and visitors were also entertained by Col. E. H. Hazelton and Staff to tea. The thanks of the Society, too, due to Mr. Gerald Bloxsome for contributing a paper on "Some Debatable Points of Unsoundness in Horses," to Mr. A. H. Archer for a paper on "Milk Fever," and to Col. L. J. Blenkinsop, D.S.O., A.V.S. (P.V.O. Southern Command) on "The Possibility of Preventing the Present Conflict of Veterinary Evidence in Police Court Cases," each of which gave rise to a most interesting and instructive discussion. The annual dinner of the Society was held at the Holborn Restaurant, London, on Wednesday, December 6th, and was attended by a company of about twenty. The Society now comprises 75 members, including officers and honorary associates, as compared with 73 twelve months ago. Four new members had been elected during the year, and for the third time in his eight years as Honorary Secretary an obituary list was happily absent, though he was sorry to have to report that they had lost two members (Mr. Porch and Mr. J. F. Simpson) by resignation.

The HON. SEC. reported that the Hon. Treasurer was unable to be present, but Mr. Baker had written him, giving him a rough outline of the financial position, and stating that a detailed statement would be forthcoming at the next meeting. The balance brought forward from the previous year was £41 0s. 7½d.; subscriptions had brought in £24 6s. The expenditure had been £29 6s., and they had a balance in hand remaining of £36 0s. 7½d. The expenditure included the sum of £12 to Messrs. Arnold for the set of dental instruments which had been acquired for the use of the members.

On the suggestion of the President, the adoption of the balance sheet was left over till the next meeting.

Mr. LIVESSEY moved the reception and adoption of the Hon. Secretary's report, and suggested that they should couple with the proposition their best thanks to Mr. Todd for his past services.

Mr. STUART: I should like to second that. Mr. Todd is one of the best secretaries we have ever had, and I hope he will continue with us for many years. (Applause).

Mr. ROBERTS wished to give the proposition his most hearty support.

The PRESIDENT said he should have liked to have seconded it himself, because he felt perfectly certain from his own experience of Mr. Todd and his work that he could not be replaced. (Applause).

Mr. TODD: Gentlemen, I can only say I am very much obliged to you.

ELECTION OF OFFICERS.

Mr. STUART said that he would like to propose the re-election as President of their old friend, Mr. Hunting. (App.) He had done very good work for them in the past, and although they had missed him from one or two of their meetings during the past year they all knew the cause of that, and they trusted his health would permit of their seeing a little more of him during the coming year. (Hear, hear). He really did not think at the present time they could find any man who would adorn the position so well as Mr. Hunting, and he was sure it would give the greatest pleasure to every one of their members if Mr. Hunting could see his way to take on the office for another year. (Applause). He would also like to take that opportunity of thanking him for his past work.

Mr. BURT had much pleasure in seconding this proposition. They had not seen as much of Mr. Hunting as they would have liked, and he thought he might at least give them the privilege of having him for their President again for another year. As they were aware, Mr. Hunting's health had not been of the best during the past year, and he had been too ill to attend on two or three of the occasions on which their meetings had been called, but they had suffered as much as he had by his absence, and they all hoped his health would be better during the coming year. (Applause). He was sure if Mr. Hunting would only consent to be their President again for another year they would benefit a great deal. (Applause).

Mr. HUNTING: It is very kind of you gentlemen, but it seems to me to be rather a curious position. As Mr. Burt has said, I have not attended half your meetings, and—

Mr. BURT: We know that was not your fault.

Mr. HUNTING: Well, would you accept it as a sort of atonement for past sins if I were to take it on again.

Mr. BURT: We should with pleasure.

Mr. STUART: Yes, and consider we were well repaid.

Mr. ROBERTS: I am sure we also hope you will have better health.

Mr. HUNTING: Well, I think you may take it as settled then. (App.)

Vice-Presidents.—Mr. J. T. ANGIN, of Arundel, was elected in the Place of Mr. W. Burt, who retired by rotation, on the proposition of Mr. Stuart, seconded by Mr. Samson, the other three Vice-Presidents, Messrs. G. H. Livesey, of Hove; C. Roberts, of Tunbridge Wells, and S. H. Slocock of Hounslow, were re-elected.

Hon. Sec.: Hon. Treas.—Mr. J. A. TODD as Hon. Sec., and Mr. E. WHITLEY BAKER, as Hon. Treasurer. These re-appointments were taken as a matter of course.

Executive Committee.—The President, Hon. Sec., and Treasurer, and Messrs. G. H. Livesey, C. Pack, R. F. Wall, and R. Roberts were again appointed on the motion of Mr. Burt, seconded by Mr. Stuart.

Place of next meeting.—The President reminded the members that Mr. Baker in his letter had suggested the desirability of a meeting being held at Salisbury.

Mr. STUART thought the President for the year had the call for the summer meeting, and suggested that if they went to Salisbury for the September meeting Mr. Baker and the other members in the west would be satisfied.

The PRESIDENT pointed out that it did not follow that he should choose London.

It was eventually decided on the the proposition of Mr. Burt, that the next meeting should be held on Thursday the 27th June, in London at Red Lion Square.

Mr. R. ROBERTS remarked that there was one matter which was not on the agenda, but which with the permission of the President, he should like to bring forward. They all knew the importance of getting good men on the Council who would support the Bill and all that belonged to it, and he should be glad if the members could be notified through their Secretary that Mr. Walter Burt was again standing for election. Last year, if they would remember, they took things a little too easy, with the result that Mr. Burt was displaced, but he had consented to stand again, and he hoped their members would make every effort this time to see that he got elected. His name had been put in early, so that he would get the benefit of the foreign vote, and he believed several of the English Societies would be willing to support his candidature. Personally, he was most anxious to see him back on the Council again, because he was a real hard worker, and held right views regarding the government of their profession.

Mr. STUART and Mr. Livesey heartily supported the suggestion of Mr. Roberts, and

Mr. SHIPLEY, as a fellow worker with Mr. Burt on the Council for a little while, remarked that the younger members of that body undoubtedly appreciated his presence there very much. He happened to know a little bit about electioneering in the veterinary profession, and he did not think they should spare any effort to bring Mr. Burt's candidature to the knowledge of the profession. As it was, they got far too many teachers from the schools and representatives of the Board of Agriculture and the Army Veterinary Department on their governing body, and they very much wanted a few more practical Provincial practitioners there. He thought they should all do their utmost to further Mr. Burt's candidature.

Mr. SLOCOCK also heartily supported what the previous speakers had said. He had only been on the Council a short time, but it had been long enough to know that there would not be a single member who would not be pleased to welcome their friend back again. Personally, he had come to regard Mr. Burt as one of the best workers they had had on the Council, and he hoped there would be no hesitation in returning him all right this time.

Mr. BURT in expressing his thanks for the kind wishes which had been expressed for his success, said that they might take it that if returned, as he hoped to be, he would do everything in his power to advance the best interests of their profession. They had got to either stand or fall by it, and he was not the sort of man who, if it was possible to help it, would allow it to fall. If at any time he could do any good for their profession he was only too pleased, and he trusted that with their assistance he might be able to do some small amount of service for it on the Council once more. He did not wish for one moment to deprecate the work which the older men had done, but at the same time one was apt as he got old to get the idea that the present was good enough. They did not always recognise that there were younger men coming along, and that the present was not good enough for them. The status of their profession

at the present day was in his opinion not good enough, and if it was possible for them to improve it he thought they ought to do so. At all events, if it was his privilege to be elected to the Council again it would be his great aim to improve the status of the profession, because with an improved status there would come more money and better opportunities. (Applause).

The suggestion that the Hon. Secretary should notify all the members of Mr. Burt's candidature and ask them for their support on his behalf was unanimously agreed to, and it was further decided that copies of the letter should also be sent to the members of the Royal Counties, the Central, and the South Eastern Counties Associations.

SPECIMENS AND CASES OF INTEREST.

Mr. ANGIN submitted the off hind pastern bone, and also a photograph of the horse "Lark's Egg." This horse, he explained, fractured the off hind pastern on June 2nd, 1907; in April, 1908, it ran second in Lady Giffard's point-to-point races; it won the same race in the following year by twenty lengths from the previous year's winner; it broke down in training in March, 1910, and it was eventually shot on the 4th October, 1911.

Also a piece of a horseshoe nail which he had found in the Oesophagus of a mare. In this case he said the animal had been treated for gripes, and when he was called to the mare he found her in very severe pain, and he was unable to do more for her than ease the pain by giving her morphia. At first he suspected a ruptured stomach, but on making a post mortem examination he found the piece of nail had pierced the Oesophagus, making two distinct holes through it.

Mr. ROBERTS remarked that it was certainly very unusual for a horse with septic pleurisy to show colicky symptoms.

Mr. G. W. BLOXSON exhibited the bony stifle joint of a horse which had suffered from Gonitis.

The PRESIDENT remarked that just previous to the meeting Mr. Shipley had mentioned two or three interesting cases, and perhaps he would not mind repeating them for the benefit of the other members, as they seemed to be quite unique.

Mr. SHIPLEY explained that the cases their President had referred to were three or four cases in which horses had fallen into a bed of nettles. In one of the cases the horse fell while in the hunting field, and in another the animal broke through a fence and rolled over on to a bed of nettles, while the third case was one which was brought to his notice while waiting at a wayside station for a train. In all the cases the condition was very much the same, there was a general paralysis of that side or part of the animal which had fallen on the nettles, and at first he must say the symptoms were alarming, but after a time they went off, and the animals became all right again.

Mr. SMITH remarked that he had seen horses feeding on nettles and he had never seen any bad results.

Mr. BURT: The nettles were mixed with grass, I take it?

Mr. SLOCOCK: They will eat nettles when they have withered, but not when they are green. There is also another peculiarity about nettles which some of you may not have noticed. The little dwarf variety that stings very sharply do not sting a horse, whereas the ordinary variety will.

FURTHER NOTES ON JOHNE'S DISEASE IN CATTLE.

By JAS. T. ANGIN, M.R.C.V.S.

This Paper is written with the hope that my efforts may at least stimulate you to a good debate on a subject which of late years has been so prominently written and spoken about in most of our Veterinary Societies, and

in a large number of Agricultural Journals all over the Globe.

In July, 1907, I read a paper on this subject before the Southern Counties Veterinary Society, and ever since that time I have been working on this disease, and have accumulated a considerable amount of data which I intend to bring before you later as regards the clinical aspects of this disease, you will also see from the specimens before you that I have not neglected the Pathological and Bacteriological aspect either.

In practice one is always a little chary about bringing the latter side of the work too prominently before the public or one's clients, as I find not only the farmer but gentlemen whose intellectual powers one would hardly like to doubt, treat one's remarks with a certain amount of incredulity.

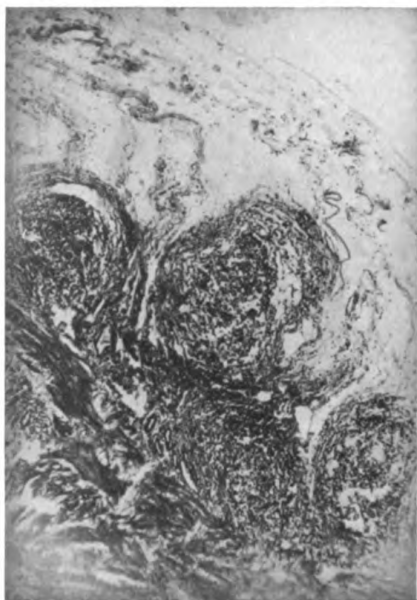
At the present day it is most essential that a practitioner should have a thorough knowledge of Pathology and Bacteriology and the various methods of applying the latter science as one of the chief aids to correct diagnosis of the numerous diseases one meets with in daily practice. I do not mean you to infer from this that we should attempt to turn ourselves into expert Pathologists, but we should not fail to use this means as a very sure aid to diagnosis, and when we have exhausted all our powers we may remember that we have gentlemen at the head of our Veterinary Schools, well-known Pathologists, who are only too willing to assist us and to correct us in our endeavours, however feeble they may be.

Coming to the subject of this paper, viz., Johne's disease, you are all probably aware of the origin of the name. If I remember correctly it was named by Sir John M'Fadyen, after Professor Johne, who was one of the original discoverers of the bacillus which is the cause of the disease.

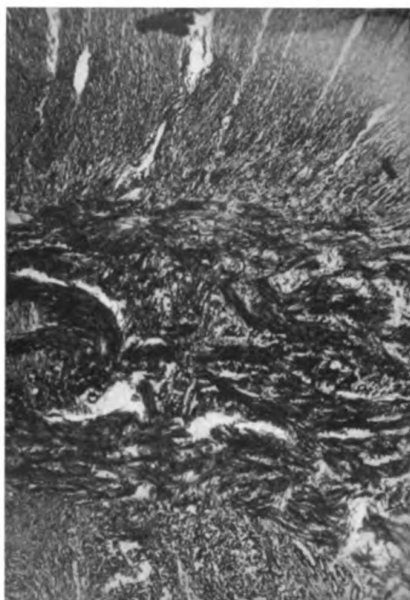
History and Symptoms.—The history of these cases is invariably the same. The animals do not thrive; they have a staring coat, an inexperienced eye can easily recognise that there is something wrong, and they can easily be detected when standing in the byre or with the herd among healthy animals. The affected animals may be feeding just as well as the healthy ones; for the appetite as a rule remains normal, and some cows will feed well, up to the last. In fact I have seen them when unable to stand from extreme emaciation still continue feeding; again in other cases one may get a varying appetite, but in the majority of cases feeding and rumination go on normally to the last. They always have a very persistent and fetid diarrhoea with a steady loss of condition, although in some cases this diarrhoea may vary in intensity. This depends on whether the animals are kept indoors and fed on dry foods, or turned out where they can get moist herbage to feed on. This diarrhoea has a most offensive odour. (Although Profs. Craig says he did not observe this in the cases brought before his notice. *V.R.* Sept. 25th, 1909). The discharge is of a very fluid nature and of a bubbly appearance; what could be described as air vesicles seem to form upon the surface of the faeces.

The period over which this diarrhoea may last without causing excessive emaciation varies according to how the cow is fed and treated. I have seen it last intermittently for eighteen months, in other cases I have seen a cow die after calving in six weeks. It has been observed in a great number of cases, and noted by other clinicians that cows the subjects of this disease, especially cows that have had three or four calves, are more inclined to waste away and die immediately after calving than at any other time. Mr. C. W. Townsend, F.R.C.V.S., in a paper on this subject before the Lincolnshire V.M.S. (*V.R.* June 26th, 1909, p. 870), also states that he has observed that some cows that are in a fair condition, or that show very little noticeable wasting, were practically reduced to skeletons within a month after calv-

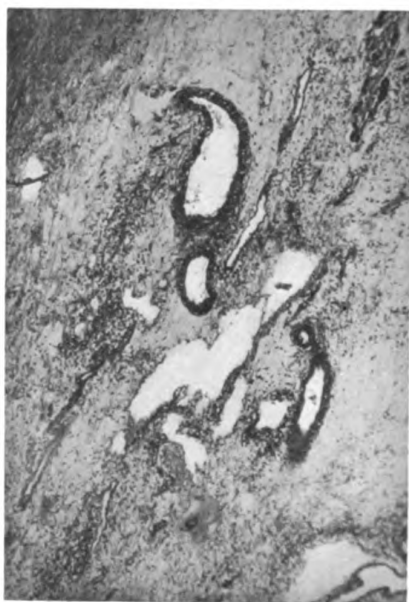
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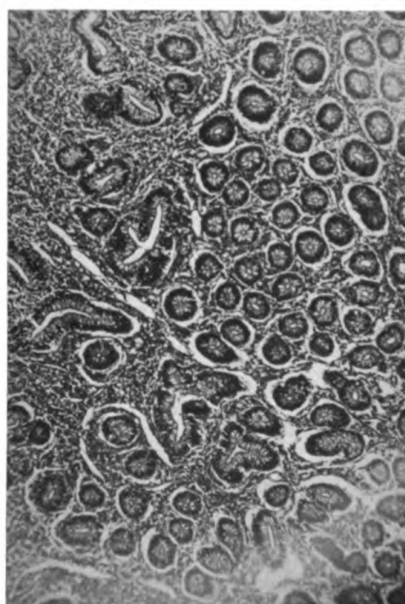
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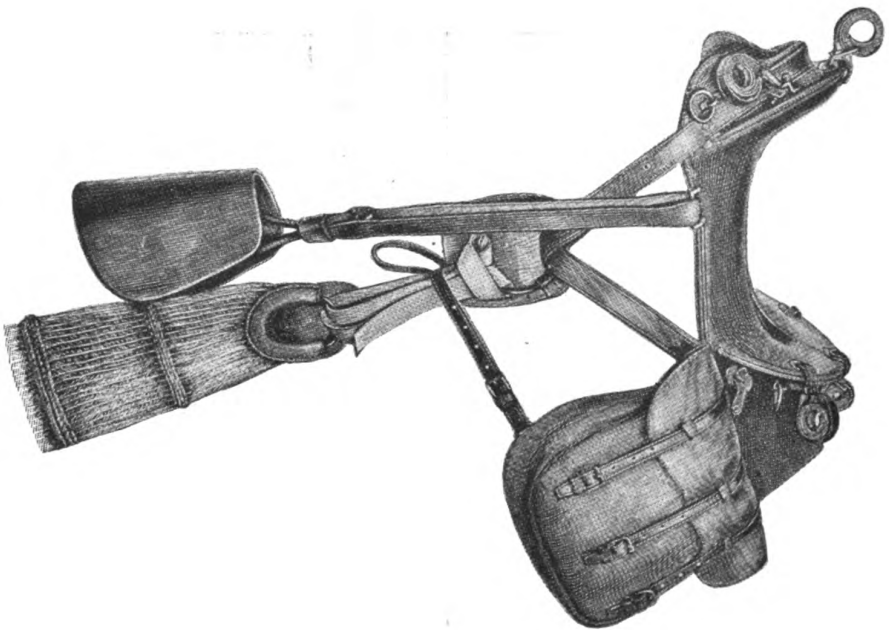


JOHNE'S DISEASE.

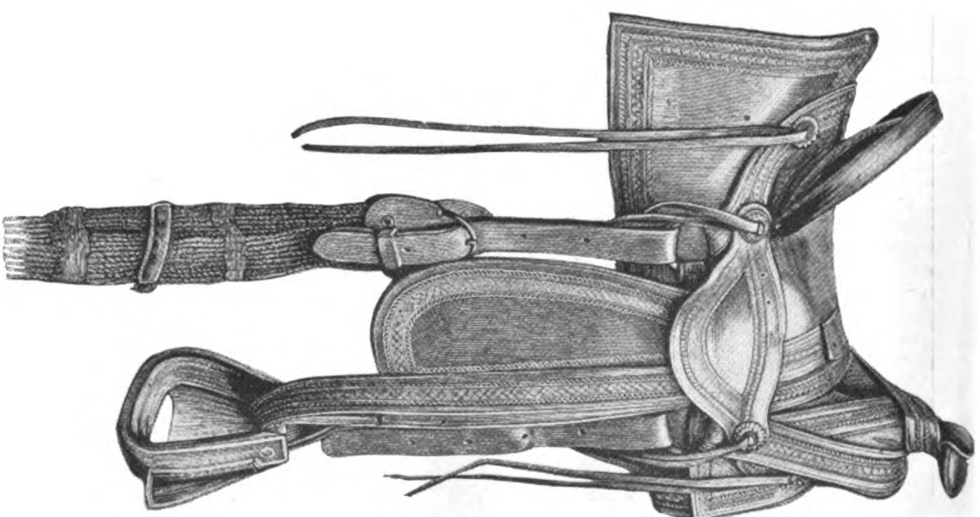
Micro-photographs from a section of small intestine: magnification 57 diameters.

No. 1. From the peritoneal coat and muscular coat. No. 2 shows the transverse and longitudinal muscular coats. No. 3. Sub-mucous coat. No. 4. Mucous coat, showing a transverse section of the glands.

To illustrate note by Mr. J. T. Angwin.



U.S.A. CAVALRY SADDLE.



MEXICAN SADDLE.

Illustrations to note on Saddles by Mr. J. F. D. Tuttle.

ing. This rapid falling away is no doubt due to some systemic change at the time of parturition. I have known a cow the subject of this disease develop a severe attack of "Milk Fever" shortly after calving, she recovered from that but eventually succumbed to Johne's disease.

In advanced stages the eyes appear very sunken, due to wasting of the orbital tissues behind, but they maintain their brilliancy, and the animal usually has a very good dew on its muzzle. They are naturally hide-bound, due to loss of subcutaneous areolar tissue and fat, one never sees any local swellings in such places as the dew-lap,* inter maxillary space, or throat. They seldom have a cough, or no more than is usual in an ordinary healthy cow when feeding (for every cow I have ever seen has at some time or other greeted me with a cough).

Cows in this state are very difficult to get in calf, and I have one in my own shed now under observation regarding this very point, personally I think she is in calf, and diarrhoea is considerably abating. As a rule these cows are not worth keeping, for many reasons, not only that they rapidly lose their milk and are useless to the dairy, but they are no doubt the source of infection to others in the herd. One must bear in mind that the symptoms I have just described are not peculiar to this disease; I have here a report of a post mortem made on a Jersey heifer which showed nearly all the above symptoms, but on P.M. proved to be a case of parasitic abomasitis. This latter disease, with parasitic gastritis, tubercular enteritis, and intestinal troubles due to poisons, are some of the diseases which have similar symptoms, and they should always be borne in mind, when one is confronted with the foregoing history.

Post mortem Notes. 15th August, 1911.

Jersey Cow, six years old, from the Duke of Norfolk's dairy. The subject of Johne's disease and parasitic abomasitis. Slaughtered.

Very emaciated, barren, dry.

Before death, profuse diarrhoea. Lungs and lymphatic glands showed no tubercular lesions, submaxillary and other glands normal in size and free from nodules.

Liver. Not much enlarged but in an advanced state of schirrosis with enormously enlarged bile ducts, containing large numbers of "flukes" and granular gritty matter.

Spleen. Rather smaller than usual.

The fourth stomach showed a most peculiar condition of the mucous membrane; the normal folds of the mucous membrane being quite twice their size, and when the stomach was held up the membrane hung in a sac or bag-like condition from the walls, this being due to a large quantity of transparent, colourless, viscid fluid underneath the mucous membrane; there were a large number of milk white spots on its surface.

Mesenteric Glands slightly larger than normal, when cut into a quantity of milky fluid flowed from them, but this was not so pronounced as I have seen it in more advanced cases where emaciation is in its last stages.

The Caecum showed very slight thickening but in patches there were areas of petechiae with distinct extravasation of blood in the superficial layers of the epithelium.

Mucous membrane. The jejunum and duodenum showed the usual thickening and wrinkling of the tissues. In the ileum the mucous membrane showed, on the mucous surface, a condition best described as a cauliflower thickening, but not very much raised from

the surface. There was no ulceration to be found in any part of the alimentary tract.

Kidneys apparently normal and surrounded by a considerable quantity of adipose tissue.

The carcase after slaughtering soon set and was quite bright; the only grounds for condemning it as unfit for human food would be the emaciation.

Microscopical Examination.

Mesenteric glands. The Johne's B. appear in fair numbers, mostly in clumps, together with a round, acid fast object which the writer regards as most likely a spore; it is difficult to stain, it often appears as a Diplococcus with the near sides slightly flattened, making it like a bean. There are no crystals to be seen.

Small intestine. In all the slides made a large number of crystals are to be seen. They are 6 to 8 microns in length by 4 in breadth, oblongs and prisms. They polarise feebly, and evidently withstand the action of H_2SO_4 . They vary in shape and size. No Johne's B. are to be seen in any of the slides made, but a few non acidfast bacilli, most likely B. Septicus and B. Coli Communis appear. The cells are granular and uneven.

Sublumbar glands. Only traces of Johne's B. Quantities of non acidfast dots and crystals are to be seen.

Spleen, no organisms. It appears normal.

Abomasum. (a) Clear fluid. A very large number of columnar epithelial cells and a quantity of small oval bacilli appear, the bacilli are not acidfast. No crystals are to be seen. (b) Smear from white nodule. Quantities of a small non acidfast bacilli are to be seen and some very small round epithelial cells. (c) Scrapings from the mucous membrane revealed a large number of small worms, belonging to the species S. Convolutus.

Post mortem Notes.

Jersey heifer, 18 months old. Extremely emaciated.

Six weeks previously this heifer, though not scouring, was in fair condition, and was sent to bull. Shortly after a persistent diarrhoea set in, and the animal rapidly lost flesh, and had a very emaciated appearance. The animal was slaughtered on Oct. 22nd, 1911.

Thorax. All the organs appeared to be normal, and there were no signs of tuberculosis in any of the glands or carcase.

Abdomen. Nothing abnormal was visible.

Stomach. This organ when opened showed the peculiar appearance similar to the preceding case, the mucous membrane being covered with white spots and hanging in sac-like folds. Of course this condition is confined to the abomasum, the other portions of the stomach were normal, but did not contain large quantities of ingesta. The bowels contained a quantity of very fluid faeces, the mucous membrane was injected and red, and in places showing signs of petechiae.

Mesenteric glands. Normal.

Microscopic examination of viscera revealed no signs of Johne's bacilli, but from scrapings of the stomach large numbers of the S. Convolutus were found to be present.

I may state here that I was called in to see this heifer, and that the owner informed me that he was sure he knew the whole cause of the trouble, simply that she had been "over-bulled." I mention this simply to show what ignorance we have to contend with, and how old-fashioned ideas will be retained.

Another feature of this disease is the age of the animals attacked. One seldom sees it at all pronounced in animals under two years old, it is mostly seen in animals from three to eight years of age. I know of a herd at the present in which this disease is very prevalent, but the young stock, especially a bunch of young heifers due to calve in the spring, are looking as well

* In the Northampton Daily Chronicle a gentleman writing under the name of "Agricola," says: "In some cases they fettle under the jaw, others slobber their cud." Jan. 7th, 1911.

as anyone would wish to see them. How many of these, four years hence, I wonder, may develop this complaint?

DIAGNOSIS.

Clinical Diagnosis. This must be conducted on the lines of eliminating any possible doubt of any other disease being present. Failing that, one may rightly suspect John's disease, and then confirm this diagnosis with the aid of the microscope. One should not be too ready to condemn a cow for this disease just because she scours.

It is wise to take the temperature of the suspected case morning and night preparatory to the animal being tested with tuberculin. I have here a series of temperature charts taken over the period of a week from four different cases, and it is interesting to note that in three out of the four the temperature is markedly sub-normal, especially those with severe diarrhoea. It is wise to test all suspects with tuberculin, and I make this a regular practice.

No. I.			No. II.	
1908.	a.m.	p.m.	a.m.	p.m.
March 8	100			98
9	99.4	99.2	99.8	100.2
10	98.6	99.0	99.4	100
11	99.8	99.8	99.4	100.6
12	99.2	99.2	99.8	99.6
13	100.2	100	99.8	99.6
14	100	99	100.6	100.2
15	99.6		100.2	

No. I. Jersey cow, 3 years old; faeces fairly firm; feeds well; sent to R.V. Coll., London, February 2nd, 1909.

No. II. Jersey cow, 6 years old; severe diarrhoea the whole week; feeding very indifferent. Slaughtered March 21st.

No. III.			No. IV.	
1908.	a.m.	p.m.	a.m.	p.m.
March 8		101.6		102
9	100.2	101.2	100.4	101.6
10	100	100.4	101	99.6
11	99	100.2	100.4	100.2
12	98.8	99.4	101.6	101
13	100	100.4	101	100
14	99.2	100	101	99.8
15	100			

No. III. Jersey cow, 5 years; severe diarrhoea all the week; feeding badly. Slaughtered March 21st.

No. IV. Jersey cow, 5 years; faeces not quite normal, but feeds well; has gained a little flesh. Slaughtered February, 1909.

I have never had the semblance of a reaction to tuberculin in a cow suffering from this trouble. I should very much like to know if any practitioner has ever found this to be otherwise. I hope to refer to this later under the heading of susceptibility. Personally, if I get no reaction I take it that there is no tuberculosis present, and as yet I have never been deceived; this I consider confirmed from the result of numerous post-mortems.

I have also had the milk from two pronounced cases analysed quantitatively by Dr. Lander, of the Royal Veterinary College.

These figures indicate that the samples are of a very good quality both as regards fats and soluble components (sugar and proteids).

	No. 1.	No. 2.
Specific gravity.	1034	1031
Fat	6.2	8.0
Solids not fat	10.8	9.6
Ash (mineral matter)	913	792

The faeces may be examined for the presence of worms, and as regards other diseases, one must rely on any history that may be forthcoming and on one's personal observation, and especially the latter.

Post-Mortem Appearances. On opening a carcass immediately after slaughter, one will observe nothing of an abnormal character. In carcasses that have not been bled the bowel may appear a little anæmic, abnormal thickening of the bowel wall may be detected by taking a loop between the finger and thumb. It is wise to remove the whole of the bowel, with the mesentery and its lymphatic glands, on a careful examination of the mucous membrane being made, one will observe a varying condition in the different parts of the bowel, one portion being often more affected than the other. Both the large and small are often very much thickened; the pyloric end of the small bowel usually does not show the lesions so markedly as the jejunum and ileum. The ileac portion is the most prominently thickened; here one's attention is attracted by the peculiar thickening of the mucous membrane, which, in an advanced stage, will be so much thickened as to represent the convolutions of the brain. This condition differs from the normal wrinkling in that on gently stretching the bowel these wrinkles do not disappear. Again, in the diseased condition one notices that the wrinkling is much more pronounced and the elevated ridges are much thicker, and are really permanent folds. The large intestine may be thickened in a similar fashion, though the ridges are wider apart and it does not present the convoluted appearance of the small intestine. The caecum often shows considerable numbers of hæmorrhagic patches which vary very much in size—from that of a threepenny piece to a shilling. There are never any signs of ulceration in any part of the gut. The mesenteric lymphatic glands are usually enlarged but to no very great extent, and often so slightly as to appear normal. On cutting into one of these glands one observes that it may be a little paler in colour than normal, and that an abnormal quantity of fluid runs out, of a slightly milky colour but very watery in constitution. With the exception of a very emaciated carcass—the absence of any quantity of adipose tissue, these are practically all the microscopic lesions visible at a post mortem, of course one does often come across other pathological conditions present, such as schirrotic liver from liver fluke, abnormal growths, echinococcus, etc.

Microscopical Diagnosis. This can easily be done in one's surgery. Carefully remove some of the largest mesenteric glands, also a small portion of each region of the small intestine, and two or more portions of the large intestine where the thickening is well marked. Wash these parts carefully and make scrapings in the usual way, details of which I will not burden you with. The bacilli are in many cases so unevenly distributed that unless many parts are examined there is a chance of missing them, but on the other hand, in some cases they are exceedingly numerous in every part.

Preparation of Slides.

Take suspected mesenteric glands and intestine, cut the gland and scrape cut surface with scalpel. Put a small piece of the scraping on a No. 1 or No. 2 cover, rub another cover over it, separate and allow to dry. Fix by passing over the flame of a spirit lamp or Bunsen burner a few times. Then stain in 1 "Soloid" Fuchsin (Basic), Absolute alcohol 3 c.c., 5% Aqueous carbolic acid 22 c.c.

Put a few drops on a cover and hold over spirit lamp till steam rises (do not let it boil), continue for 5 minutes. Wash in water, then decolorize in: H₂O. 75 c.c., H₂SO₄ 25 c.c., for two minutes. Now the stain will be removed from all but John's B. Wash in water, dry and counter-stain in:—Methylene blue, (Burroughs & Welcome) 1 tablet; H₂O. and Alcohol, each 7 c.c. for a few seconds (about 10) but be careful not to over-stain; wash in

water. Dry between filter paper, then in the air till quite dry. Mount in Xylol balsam.

Preparation of Sections.

Harden fresh Mesenteric glands, which have been cut in several pieces, in methylated spirit for a month, change the spirit several times. Take a slice about 1-6th in. thick in the direction you want the section and soak in water for 24 hours changing the water frequently, then transfer to a mixture of gum and loaf sugar, gum water 5 parts, sugar water 3 parts, for 24 hours. Take out and drain. Put on Microtome, cover with gum (no sugar) and freeze, cut sections. Transfer to water and wash away all traces of gum; stain in Carbol fuchsin as for smears. Decolorize in H_2O . 4 c.c. H_2SO_4 1 c.c. Wash in water. Dehydrate in absolute alcohol, clear in Clove oil, and mount in Xylol balsam.

Johne's bacilli may be stained by the Ehrlich-Weigert method if preferred, in which case proceed as for smears, but stain in: "Soloid" Gentian Violet, 0.1. Absolute alcohol, 7 c.c., freshly filtered aniline water, 63 c.c., put some in a watch glass and float prepared cover in it, warm till steam rises (do not boil) and continue for $\frac{1}{4}$ of an hour, wash in water and decolorize in HNO_3 1 c.c. H_2O 4 c.c. till the smears appear light green. Wash well in water and then counter-stain in: "Soloid" Bismark brown, 0.1 gm., water 14 c.c. for 5 minutes. Dry and mount in Xylol balsam. In this preparation Johne's B appear blue, or else brown.

Note—The Gentian Violet will only keep for about 24 hours.

Morphology.

The Bacillus of Johne is a small rod about 2 to 4 microns in length. It is slightly curved, and sometimes larger at one end, it is "banded" and when it is slightly out of focus looks like a dumbbell dark at each end and light in the middle. The bacilli stain readily with Ziehl-Neelson's and by the Ehrlich-Weigert method and are acid-fast and gram positive.

SUSCEPTIBILITY.

There is little doubt that some cattle have a greater susceptibility for this disease than others, and they rapidly succumb to the disease when once contracted. I am of opinion that some do eventually recover, but these never show the continuous diarrhoea for any long period, although they may have it intermittently. I know of a Jersey cow I was on the point of condemning six months ago, which is now practically well and sound. Of course this may not have been Johne's disease, but simply a verminous infection from which she has recovered. She did not react to tuberculin. The only thing is to have patience, keep the animal under continuous observation and await any further developments. Many animals no doubt have a natural immunity *under normal conditions* as in all other diseases. There is no breed of cattle immune, but I am of opinion that Jersey cows are as susceptible to this disease as any—similarly to the known fact that on the mainland they seem more prone to tuberculosis than in Jersey. On the other hand I have been given to understand that this disease is at present very prevalent in Jersey whereas tuberculosis is not.

METHODS OF INFECTION.

There is little room to doubt that the primary, and probably the only method is by deglutition, and that the infection is taken into the animal's system in the different foods, and in water. This naturally brings us to the questions: How long an animal takes to develop symptoms? How much infective material is necessary to cause the disease? What is the best course to take as regards infected areas to stop its further spread. Probably it is many months before an animal takes in sufficient infective matter to start the disease, and again a considerable period before the bacilli develop in such

numbers as to cause any clinical symptoms, this period may be put roughly from about eight to eighteen months, and from the time of undoubted clinical symptoms, with care and treatment life may be extended over another twelve months or more, but complications such as milk fever, or calving often considerably hasten the end.

INFECTED AREAS.

It is a well known fact that this disease may lie dormant on a farm for several years and then, for no apparent reason, break out and cause considerable loss to the farmer.

In October 1909 I was called to two Guernsey cows suffering from severe diarrhoea. I treated them in the usual way for scour without any beneficial result; I suspected Johne's disease. On the 22nd, I injected both cows with tuberculin, but neither reacted. As the animals steadily lost flesh I advised the slaughter of both, I had them removed from the farm to a slaughter-house, where I examined them, and had no difficulty in detecting the P.M. lesions, the microscope revealed the bacilli in large numbers. This farm is situated near the coast, and these cattle are kept on a certain portion and never shifted, they have three meadows over which they run these being, on the land side, surrounded by fallow; these meadows are never laid up for hay as owing to their conformation they would be very difficult to mow, the cows are fed on the usual food, roots, hay, oat straw, cake and oats during the winter, and turned out for a few hours during the day. I should also say that a large stack of ensilage is made every year and the cows are given a certain amount at each feed, but this is made from seeds and clovers especially grown for the purpose. No fresh animals have been imported into the herd, and only such heifer calves as are necessary are kept to maintain the numbers. There is no bull kept, but I have satisfied myself that the two bulls that these cows have been sent to are on farms where this trouble is not known, or, I should say, I have had no outbreak there of any kind during the last eight years.

My client on being questioned informed me that five years ago he had three cows showing exactly similar symptoms; and that as whatever they gave them did them no good, and as they looked like dying they were "got rid of." Personally, I blame the meadows, as during these years there must have been an enormous quantity of infective matter spread over them, and if no fresh infection had been imported the virus must have been able to sustain life there, and, when climatic conditions were favourable, to reproduce the disease in apparently healthy cows.

To disinfect pasture land, the only thing to be done is to give the meadows a rest, remove all cattle from them for several months, dress the surface with salt and lime, and see that the drainage is not neglected, for this latter is, I think, a most important point which is often overlooked. When these meadows are again fit for pasturage, I always advise grazing horses or sheep on them first, simply to keep the cows out of them as long as possible. All infected or suspected animals should be separated from the others, their faeces destroyed, or thoroughly disinfected, and never used for dressing pasture land, and I think it advisable not to put it on fallow.

Although little is actually known as to the resistance of this bacillus or its spores outside the animal body, one is led to think that they must have an existence of which we know very little. We will know a great deal more I hope shortly, as Messrs. F. W. Twort, M.R.C.S., L.R.C.P., and G. L. T. Ingram, M.R.C.V.S., have discovered a medium on which they have successfully made a culture of this bacillus. For a full report of their experiments I will refer you to the proceedings of the Royal Society B., vol. 84, 1912, also to a report in *The Veterinary Record*, April 20th, 1912. It is interesting

to note that the method of culture is on media containing a dried and powdered growth of certain acid-fast bacilli, which have been previously killed, that the Timothy grass bacillus is one of the most suitable for the purpose, and that they have produced John's disease by inoculation. There is little doubt that in time some toxin will be prepared; whether this will prove a diagnostic or curative agent we must wait patiently to see; perhaps if not a curative for this disease it may prove of some use in tuberculosis; there is a big field of investigation open here.

I have a rather interesting set of microscopic slides, all of which have been obtained from recent cases, which I propose to show you stained by the two methods already described in this paper. The only point I should like to draw your attention to is, that in all of these specimens you will notice, in large numbers, what I must describe as small spherical bodies, usually together in pairs, similar in shape and size to diplococci; they are distinctly acid-fast, as they retain the same colouring as the bacilli, and all these slides have been thoroughly decolourised before counter-staining. I should like to have your opinion whether they are spores or distorted bacilli, but they appear to be much larger than the bacilli present in the slides.

DISCUSSION.

Mr. SIMPSON asked Mr. Angwin if he had had any experience of treating with avian tuberculin.

Mr. ANGWIN: Never.

Mr. SIMPSON: Personally I have not either, but I believe another member of our profession who lives at Reading has, and that his experience has been that when you test with ordinary tuberculin you get no reaction, but that if you test with avian tuberculin you find you do. I should also like to know whether Mr. Angwin considers the disease hereditary.

Mr. ANGWIN: I should say not.

Mr. SIMPSON explained that he had asked the latter question because in one herd of cattle that he had had to deal with the case had been distinctly hereditary. Grandmother, mother, and daughter had all been attacked by it, and they had all died.

Mr. ANGWIN: Can you give me their ages when they died.

Mr. SIMPSON replied that he was afraid he could not, but the last one was in its second calving when it died.

Mr. ANGWIN: I think that would rather point to its having got the infection after birth, because in two years an animal would have plenty of time to get the infection into its system. This disease takes a very long time to develop, and that is the worst feature—it is so insidious.

Mr. ARCHER desired to congratulate Mr. Angwin on the very excellent paper he had read. Personally, he had seen a good deal of this particular disease in days gone by, but unfortunately at the time when he came into contact with it it was regarded as intestine tuberculosis, and the animals were destroyed under that impression. He agreed with Mr. Angwin in almost every particular with regard to the course of the disease and its nature, and also with regard to the infective properties. It was not a very highly infective disease. At all events, they might get three or four animals in a herd, and no more, and if it were very infectious they would get more. He also quite agreed that some pastures were much more favourable to it than others; the pastures he had found most affected were those which were more or less swampy. Mr. Angwin had not said anything as to treatment, except that some cases did recover. He was quite ready to believe that there were a few cases that recovered, but not when diarrhoea had set in to any extent. He also agreed that during parturition it seemed to develop in the animal very rapidly. The drug he had found most effectual is powdered

cinnamon, given with iron, but whether these cases had really been cases of John's disease or not was not certain.

Mr. ANGWIN remarked that he had never tried cinnamon, and really he did not think it was much use trying anything, once the animal was really suffering from the disease. In post mortem examinations which he had conducted—and it was to the post mortem examinations that they must go for their diagnosis—he had never seen any of the symptoms usually shown in tuberculosis, and that made one inclined to think they must be two distinct diseases, and that one could not thrive where the other existed.

The PRESIDENT said that it only remained for them to thank Mr. Angwin for his paper and post mortem specimens, and also the two other gentlemen who had brought cases of interest to their notice.

Mr. ARCHER proposed, Mr. SAMSON seconded, and Mr. BURT in supporting it, remarked that they were greatly indebted to men like Mr. Angwin who gave up time which might be far more pleasantly spent to making these investigations. He thought he was deserving of their heartiest thanks for the trouble he had taken and the time he must have devoted to the preparation of his paper and the photographs.

Mr. ANGWIN, in reply, said that it had been a pleasure to him to do what he had. As Mr. Burt had told them, these investigations had been spread over a period of five years now, but he was amply repaid by the results. He only wished there were a few more members who would come forward when their Secretary asked them for papers, and give a little time occasionally to putting down a few notes for the benefit of their fellow-practitioners. They did not come there as professors or experts, but to exchange their views and thus help each other to keep abreast of the times. If they did not do their best to keep their profession abreast with the times they must be left behind. He hoped that in future the Secretary would not have any difficulty in obtaining plenty of offers of papers or notes on cases which they could discuss for their mutual advantage.

On the proposition of Mr. Stuart, seconded by Mr. Roberts, the customary compliment was then paid to the President for presiding, and the proceedings terminated.

J. ALEX. TODD, *Hon. Sec.*

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the Swan Hotel, Stafford, on Tuesday, May 14th, Mr. W. H. Brooke, of Handsworth, the president, occupied the chair. There were also present: Messrs. R. C. Trigger, Newcastle-under-Lyme; J. J. Burchnall, Barrow-on-Soar; J. W. Coe, Hanley; H. Thackeray, Stafford; R. Over, Rugby; Burndred, Hanley; A. B. Forsyth, Cannock; L. W. Heelis, Solihull; J. DeVill, Uttoxeter; H. L. Pemberton, Bridgnorth; J. A. Gold, Redditch; J. Martin, Wellington; F. J. Taylor, B. Devine, Birmingham; W. G. Thompson, Stafford; R. Murray, Rugeley; J. R. Carless, Shrewsbury; G. Smith, Tunstall; Hutchinson, Cheadle; E. H. Woodcock, Eccleshall; and the Hon. Sec., Mr. H. J. Dawes, West Bromwich.

Apologies for unavoidable absence were announced from Sir John M'Fadyean, Professors McCall, Dewar, Penberthy, and Macqueen, Messrs. W. Perryman, D. Forwell, R. L. Forrest, T. Slipper, T. Chambers, W. T. Brooks, C. M. Barber, W. Dale, John Blakeway, James Blakeway, T. Ludlow, F. H. Gibbings, T. J. Brain, J. L. Duckworth, Prince, G. Thornton, E. J. Burndred, P. C. Woolston, F. L. Gooch, F. W. Barling, W. Blunsom, F. V. Steward, J. Marriott, R. Hughes, C. E. Dayus,

P. M. Evershed, J. Bainbridge, W. S. Carless, O. G. Hills, A. Over, G. Wartnaby, and others.

THE PRESIDENT'S HOSPITALITY.

The company were entertained to luncheon by the President, and before leaving the table Mr. Trigger proposed the health of their host. He expressed the appreciation which they all felt at his kindness, and added that it was the wish of every member that Mr. Brooke's year of office might be successful in every way.

The President briefly acknowledged the compliment, and said his only regret was that a greater number of members had not found it possible to accept his invitation.

REPORT OF THE COUNCIL.

"A meeting of the Council of the Midland Counties' V.M.A. was held to-day. There were present: the President, Mr. W. H. Brooke, in the chair, Messrs. Burchnall, Coe, Thackeray, R. Over, Trigger, Pemberton, Gold, Martin, Devine, and the Hon. Sec.

It was recommended that the President or the Hon. Sec., as they may mutually decide, be asked to represent the Association at the Annual Congress of the Royal Sanitary Institute, to be held at York on July 29 and following days.

It was recommended that the next quarterly meeting of the Association take the form of a picnic to Trentham, the fixing of the date and the making of the necessary arrangements to be left in the hands of the following local practitioners: Messrs. Trigger, Smith, Coe, Tart, and Burdred."

On the motion of Mr. Trigger, seconded by Mr. Martin, the report of the Council was adopted, and the recommendations contained therein endorsed unanimously and without discussion.

NEW MEMBER.

Mr. W. G. THOMPSON, of Stafford, duly nominated at the previous meeting, was elected a member of the Association on the motion of the Hon. Sec., seconded by Mr. Pemberton.

THE INTERNATIONAL CONGRESS.

The Hon. Sec. drew attention to the forthcoming International Veterinary Congress, which is to be held in London in 1914. He had noticed in the reports of the meetings of other Associations that something was being done towards raising funds for the entertainment of visitors. A large sum of money would be wanted, and the Midland Association, which prided itself on being one of the largest and most influential Associations in the country, would not like to be behind in a matter like this. He thought they might set aside a sum each year for the next two or three years as a contribution towards the fund which was being raised. On this matter in order, he would move at the next meeting of the Association, "That a sum of not less than £100 per annum be subscribed out of the funds of this Association for the next three years towards the cost of holding the International Veterinary Congress in London."

The Hon. Sec. said the profession all round would be encouraging, and individual support of the movement was being sought, as well as the assistance of Associations such as this. In other countries a Congress of this character would be subsidised by Government, but in England they were not so well favoured, and they had to bear everything themselves. He understood that at least £2000 would be required to defray the expenses, for he was sure the profession would like to entertain the foreign delegates in a manner worthy of the occasion.

The Hon. Sec. added that he should be pleased to receive any subscriptions from individual members and

forward them to the proper quarter. In any case, they as an Association must be prepared to do something handsome, and he was glad to think their funds would allow of that being done.

PRESIDENTIAL ADDRESS.

W. H. BROOKE, M.R.C.V.S., Handsworth.

Gentlemen,—Permit me to thank you sincerely for the honour you have done me in appointing me your president. I have serious doubts as to whether the mantle has fallen upon the proper shoulders, but as it is your wish, I will, with the kind co-operation of your long tried Secretary and my own personal friend, endeavour to maintain the prestige of our Association, trusting you will accord to me the same cordial support that I have seen meted out to my predecessors. It is now close upon twenty years since I joined this Association, as a result of a call from our Secretary, and at the outset I felt not a little hesitancy in obtruding my presence into such an august assembly, but by and bye that sort of feeling wore off, and I am pleased to say I have now almost reached its antithesis, and look forward with pleasurable anticipation to what has become a gathering of old and tried friends. This has, I am sure, been the experience of well-nigh all of us, and I hope, remembering our own kind receptions, none of our number may be found wanting in cordiality towards newly elected and younger members, and in doing our best to make them feel at home, so develop their best that it may become an asset to our Association in the future. It is customary on such occasions as these to review to some extent things veterinary. We have read or listened to numerous presidential addresses just lately. Still, I hope you will permit me to make a few remarks without deeming it too serious an intrusion on time more valuable in other directions.

Perhaps what is affecting the town practitioner most nearly just now is the serious loss of horse practice through the extensive inroad made by motor traction, and it behoves us to watch carefully for means to recoup ourselves. The extending recognition of our services in Public Health compensates us to some degree, and the generally increasing regard by the public for the welfare of household pets is also a help. I think, too, we may with some profit turn our attention to bird pathology. No doubt some of us are asked incidentally with other work to advise for ailments of bird pets, which really should not be outside our province, but we frequently have to hand such cases over to others who are mainly empirics. The country veterinary surgeon cannot be so hardly hit, for with him cattle and draught horses must always be present. I suppose the day is yet far distant when a jumping motor will displace the hunter.

Research in the bacteriological and physiological laboratories have made much possible to us that was not available to a previous generation, and the aim of the general practitioner should be to digest, assimilate, and carry into effect all the useful practical points evolved. The last twenty years has seen great developments in general surgery, and although in our practice it has not the diversity seen in the human branch, still our own general practitioners have a much stronger right to the title of surgeon than our brethren of the sister profession, who now appear, with only rare and trivial exceptions, to have settled the whole of this class of work on the specialist. What, I think, hinders the general adoption of new methods in surgery is the fact that our anatomical knowledge has, with the lapse of years lost much of its definite exactness, which is so necessary to success, and could we get an occasional paper from some of our expert friends who would brush off the dust which encrusts some of our anatomical

detail, it would be of much service. May I also suggest that much valuable data might be accumulated by a society like our own in special fields of observation, such as has been from time to time alluded to in *The Veterinary Record*. Definite and continuous observations noted at the time by a recording line—a procedure which I fear most of us in the hurry of practice are apt to neglect—would be of great assistance to our profession, and to ourselves in facilitating future diagnoses, and in rendering our treatment more exact. The post-mortem examination, for which we have frequent facilities, should never be neglected, and ought to be regarded as a pilgrimage in the cause of science, and when carefully and systematically carried out rarely fails to add a stone to the edifice of accurate knowledge. Closer observation and consideration would often do away with much of the conflicting evidence which we find ourselves giving in police and other courts, which to the lay mind seems to be so frequently contradictory, for we have to remember that we are invariably in the position of sworn testators, and not making pleas for our clients in the light of advocates.

We may, I think, with profit discuss many of the apparently simple issues concerning which we often find so great disparity of opinion, and between ourselves arrive at something like definite conclusions as to what constitute the more debateable phases of cruelty which frequently cause a certain amount of animus between ourselves and draw some discredit upon our calling in the lay mind, which fails to appreciate our difficulties. The small surface sore, so often distorted into disproportionate importance, might be a little less regarded; and the working of old and decrepit animals, in which cruelty is so often inflicted, receive a little more attention. I have long thought that the funds of humanitarian societies would be profitably expended if a system of inspection of such animals were adopted, and that the Act might be much improved by the insertion of a clause demanding the inspection of all horses over the age of, say, 12 or 14 years prior to their changing hands, to ascertain their fitness for further work, and what that work should be. Chronic foot lamenesses, too, which are responsible for much pain, are generally overlooked altogether, especially if bilateral.

The treatment of canine diseases has become a most important branch of the town practitioner's practice, and although this subject has of recent years received more consideration, there is still much to be done. Distemper and skin diseases have perhaps had something like their meed of attention, and there has also been some development of canine surgery, but many other diseases remain *in status quo*, particularly those of the nervous system, and we are urgently in need of the expert pathologist to help us in this direction. That troublesome disease, chorea, so insidious in its onset, and refractory to all present known treatment, which so often affects the very best of our animals, has never, so far as I am aware, had its pathology fully investigated. Human pathologists tell us of its frequent association with rheumatism, of the usual concurrence of an endocarditis, causing cerebral embolism affecting the motor cells of the cortex and corpora striata of the lateral ventricles, which stands as a most reasonable cause to account for the presence of motion without volition. How many records of post-mortem examinations of hearts, or even of general post-mortems, have we put on record following deaths from distemper with cerebral lesions— for cerebral all cases of chorea must be, whether as incidental to distemper or otherwise. Only the versed pathologist is qualified to inquire into the minute but all important changes in which so much trouble originates. I throw out these matters for your consideration, and trust you will not think my address trenches upon the lines of a paper.

Our politics have been so largely touched upon by other presidents in their addresses, and by others well used to deal with them, that I can pass them over by simple allusion without, I hope, detracting from their importance. Our serious pecuniary position should be a matter of concern to all of us, and the passing of our Bill, which I trust may be expedited by all possible means, and met by an unanimous *esprit de corps* among our members, will, I hope, level up our position and make it substantially secure.

Our strengthened union by means of the reconstituted National Veterinary Association has been found vitally necessary, by the crisis in which our medical friends have recently found themselves in the matter of the Insurance Bill. We shall, I am sure, before long, have to stand our ground to something of equal importance to ourselves in upholding the rights which, without presumption, we are conscious are our own, and which adverse influences from many and various sources would take from us. I need not particularise the details of the veterinary surgeon's province in the domain of Public Health. They have of late been prominently before you. But I trust when the time arrives for such matters to be settled once and for all, we may be prepared as a profession and united as a body.

The Hon. Sec. moved a vote of thanks to the President for his address, and expressed the hope that he would allow it to be included in the minutes of the meeting.

Mr. GOLD seconded the vote of thanks which was carried.

JOHNE'S DISEASE.

By BRENNAN DEVINE, F.R.C.V.S., D.V.S.M., (Vict.),
Vety. Dept., City of Birmingham.

Mr. Chairman and Gentlemen,—In attempting to give you a description of John's disease, I would like you first to understand that the subject was not my own choice, but that of the Council of this Association. Secondly you must not expect this paper to be exhaustive on the subject, as it has been written at odd moments and irregular hours, whenever I could spare a few moments from work during an extra busy period.

Although John's Disease has been recognised as a distinct condition for some few years, its contagious character and its lesions are not so generally understood as they might be, considering its great prevalence. The actual research on this disease has been carried out in different countries.

I have little of my own to tell you that is original on the subject, but I wish in the following pages to discuss the main points of interest, and to place before you a combination of the up-to-date modern views, as described in the published records of several investigators. As the subject must naturally be of great interest to us all as practical veterinarians, and is at the present time attracting the attention of many veterinary scientists in different countries, I hope that my remarks will prove interesting, and trust they will promote a good discussion. If I am so far successful I am sure the remarks of the other members will fill up the many deficiencies of this paper.

Nomenclature. It may in the beginning be interesting to note the different names under which the disease has been described. Like many other newly discovered diseases, each investigator has adopted that term which he thought most descriptive of or suitable for the disease.

The following are the principal names under which the disease has been described:

Chronic Enteritis.
Chronic Bacterial Dysentery.
Chronic Bacillary Enteritis.
Pseudo Tuberculous Enteritis.

Infectious Enteritis of Cattle.
Specific Chronic Enteritis of Cattle.
Diffuse Hypertrophied Enteritis of Cattle.
Chronic Bovine Tuberculous Enteritis.

Hardly any of these names are sufficiently distinctive for the disease, as there are many forms of enteritis in cattle due to causes other than Johne's bacillus; whilst those titles which include the word "tuberculous" are apt to be misleading, as it suggests it is a form of bovine tuberculosis. Sir John McFadyean, in an article in the *Journal of Comparative Pathology*, Vol. XX, suggested that the disease should be known as "Johne's Disease," and under this name it is now generally known in the English speaking world. It is a short, unmistakable name, not likely to be confounded with any other disease, and at the same time it pays to Johne, the discoverer, that appreciation and recognition of his work which he so richly deserves.

History and Distribution. In 1881, Hansen and Neilson, each described cases of chronic enteritis occurring in cattle in Holland. They pointed out that the intestinal mucous membrane was hypertrophied and thrown up into folds. The contagious character of the disease was at that time suspected, but it was not until 1895 that Johne and Frothingham discovered the causal organism and its contagious character was proved. Johne found in the intestinal mucous membrane of affected cattle acid-fast bacilli, microscopically indistinguishable from tubercle bacilli. Johne and Frothingham at that time considered the disease a form of tuberculosis. Following their discovery the disease does not appear to have been recognised until eight years later, when Barkus, in 1903, described cases occurring in Holland. Since that time, the disease has been seen and described by Bang in Denmark, Van der Sluys in Holland, Lienaux and Van den Eckhout in Belgium, McFadyean and Stockman in England, Borgeand in Switzerland, Bongert and Meissner in Germany, Matthis and Lechlaine in France, Pearson and Mohler in America, Horne in Norway, Neilson in Laaland, etc. From this list we see that the disease is present in many countries, more particularly in the North European countries. The non-recognition of the disease in other countries is probably because bovine diseases have not been so actively investigated there. No doubt as the disease becomes better known it will be recognised in other parts of the globe.

As the disease in its early stages is such an insidious one, and is not generally known, it would be difficult at the present date to fix approximately the percentage of cattle affected in this country. I believe the disease is much more prevalent than many of us suspect. I have seen as many as four cases in one day at the Birmingham slaughter houses. While Jersey cattle hold the reputation of being free from tuberculosis in Jersey, many of them are said to be subjects of Johne's Disease. There is no doubt the disease is prevalent in many parts of the United Kingdom.

The Causal Organism. Johne's Disease is caused by an acid-fast bacillus microscopically indistinguishable from the tubercle bacillus. In affected animals, the bacilli are found in the intestinal mucous membrane, and in the mesenteric lymphatic glands and their ducts. Morphologically and in staining reaction, the bacillus closely resembles the tubercle bacillus of the bovine type. It is non-motile, aerobic, and non-sporing. Its average length is 1 to 2 microns long, and occasionally some may be found measuring up to 4 microns. The bacilli are slender straight rods, and are usually seen in clumps. Some of them may be found slightly curved, especially those on the outer edges of a clump. The clumping of the bacilli is characteristic, and is of importance from a diagnostic point of view. According to McFadyean, some of the longer bacilli show alternating staining, while the shorter forms stain uniformly. The bacillus is non-motile and aerobic. It stains best by the Ziehl

Neilson stain, but will also stain by the Gram. It does not stain well with the aqueous solutions of the aniline dyes. The bacillus will live for a considerable time outside the animal's body. According to Twort, cultures may be kept under anaerobic conditions for three months and will afterwards develop if placed in a suitable medium and temperature.

Cultural Characters. Many unsuccessful attempts have been made to cultivate the bacillus artificially outside the bodies of bovine. Messrs. Twort and Ingram, working in collaboration at the Brown Institution Laboratories, have succeeded in cultivating the bacillus on a special medium. In the proceedings of the Royal Society, B. Vol. 84, 1912, they state as follows: "Growth occurs between 28° C and 43° C or perhaps a little beyond these limits, the optimum being about 39° C, but it is always slow. The reaction of the medium should be distinctly alkaline. The degree of alkalinity possessed by new laid eggs is very suitable, and if this is in any way lessened in the medium there is a marked diminution in the rapidity and the amount of the growth. No growth occurs on any of the artificial media in general bacteriological use, such as peptone, bouillon, agar, gelatine, serum, potato or egg, even when such substances as glycerine, sugars, amino-acids, fresh blood, etc., are added. It is absolutely essential that certain previously detailed bacteria or extracts from them be added to one or other of the media before any growth of Johne's bacillus takes place. Of the bacilli tested, undoubtedly the most suitable for adding to the media is the Timothy grass bacillus. Certain strains of human bacilli are also very good. On the egg-Timothy grass bacillus—medium, Johne's bacillus when taken from the animal body will grow as tiny discrete colonies which usually become visible in three to five weeks. At first the colonies are round, smooth and dull stone white, they are slightly heaped up, and as growth increases this becomes more marked, while the colour turns to a dull light yellow. Later the colonies may coalesce and the growth show some wrinkling, while the colour may turn to a light yellowish brown. If the first culture taken from the diseased tissue is sub-cultured on to a fresh tube of medium, visible growth occurs on this in a few days, and may reach its maximum in two months instead of three. When inoculated into fluid media containing a suitable bacillus or bacillary extract, such as ordinary glycerine peptone bouillon, made alkaline and containing 1 per cent. of alcoholic extract of the Timothy grass bacillus. Johne's bacillus grows as tiny whitish grains which settle to the bottom of the tubes or flask. These gradually increase in size and number, ultimately reaching the size of a millet seed. Cultures are not easily killed by diffused daylight, as we have had them standing before a window on a bench for some weeks without any apparent harm. Johne's bacillus would also appear to be fairly resistant to the action of disinfectants, since two of our strains were isolated from material which had been subjected to the action of a 1 per cent. watery solution of Eriocolin at 37° C for two hours. In this respect it is no less resistant than the tubercle and lepra bacilli.

Susceptible Animals. Johne's Disease chiefly attacks cattle, and it is most common in animals from three to six years old. It is rarely seen in calves. Sir John McFadyean, in his tenth annual report of the Royal Veterinary College, published in the *Journal of the Royal Agricultural Society of England*, 1907, reports having met on post mortem a case in a deer. It is important also to note that sheep are not immune. Mr. Stockman, while investigating a disease known as "Scrapie" in sheep, has met with cases of Johne's Disease in that animal, but the lesions found in the sheep are not so pronounced as those found in the bovines. The fact that sheep and deer are both capable of contracting the disease points to their being possible factors

in its spread. Hence, they must necessarily be taken into consideration when instituting prophylactic measures. Attempts have been made by several investigators to artificially inoculate the disease into other animals without result. Bang attempted to inoculate guinea pigs, rabbits and goats. Meissner in addition to these animals has tried mice, but all have proved negative. Liénaux, of Brussels, in a paper on the subject delivered at the ninth International Veterinary Congress, held at the Hague, 1909, claimed to have been successful in conveying the disease to guinea pigs, but Liénaux's results have not, so far as I am aware, been confirmed, and the view is now held that the disease which Liénaux's experimental animals contracted was avian tuberculosis.

Incubative Period. After the entrance of the virus into the body of a healthy animal, some considerable time elapses before any noticeable symptoms in the animal are apparent. The development of Johne's Disease is as a rule slow, and naturally depends to a certain extent upon the age, environments, strength and vitality of the animal. The presence of any debilitating disease would naturally tend to shorten the incubative period. Bang inoculated a calf by feeding with infected material. This animal showed signs of diarrhoea eight months later. This is the shortest period I have seen recorded in which the disease developed after inoculation. In most cases the animals do not exhibit any clinical symptoms before 11 or 12 months after inoculation. The disease develops more quickly in animal at grass than in those which are constantly housed. This may be explained by the latter being usually fed on a more concentrated and better diet than grass, thereby keeping up the tone of the system.

The long period of incubation would seem to indicate that the disease runs a sub-acute course, and that clinical symptoms are not developed for a long time unless some complicated illness or other condition arises, such as pregnancy, and this gives the organism a chance of developing at an earlier date. Generally speaking, the incubative period may be placed at from eight to twelve months.

Spread of the Disease. The causal organism is only found in the alimentary canal in affected animals. It has never been detected in the respiratory tract, and is not found in the milk or urine. The faeces must then be regarded as the medium by which the disease is spread. Animals may be inoculated by intravenous or intra-peritoneal injection of the virus, as well as by feeding on infected material. One must conclude that the mouth is the port by which the virus naturally gains entrance to the body. If the faeces of an animal contaminate the water, grass, or other food stuffs, non-affected animals will contract the disease from them.

SYMPTOMS.

As a rule affected animals are from three years old and upwards, though it is occasionally seen in animals as young as 12 months. The commonest symptom is a progressive anaemia and emaciation. Diarrhoea is frequently present, though this is not constant. In affected animals the diarrhoea is intermittent, coming on at irregular periods. Although diarrhoea is present in the majority of cases, it is possible for an animal to be affected with Johne's disease for a long time without showing any symptoms of diarrhoea. Bang records a case of a cow which had died from the disease, yet she had never shown any diarrhoea symptoms. Mr. Ingram, M.R.C.V.S., late of the Brown Institution, first drew my attention to the intermittent character of diarrhoea in Johne's disease. Since then I have observed this intermittency in three affected animals, their faeces at certain periods being normal in consistency and at other times diarrhoeic. Affected animals exhibit no febrile symptoms such as elevation of temperature, cold ears, etc.

During the periods when the diarrhoea is present there is a sudden diminution in the milk secretion and a great loss of flesh, and with each attack the animal gets gradually weaker. Each succeeding attack of diarrhoea occupies a longer period than the preceding one. The attacks of diarrhoea do not seem to be amenable to any form of drug treatment. In animals kept at grass the periods of diarrhoea are of a long duration; in fact the animal becomes so weak and poor that it is usually considered a "waster," and is knackered. In housed animals that are well cared for the diarrhoea does not seem to persist for long periods, though each attack leaves the animal poorer and weaker than before.

Through the courtesy and kindness of Dr. Twort, I was permitted to examine at the Brown Institution, London, a Jersey bull affected with Johne's disease. This animal, I was informed, had passed through various periods of diarrhoea, but at the time I examined him the faeces were fairly stiff, though I noticed they contained an appreciable amount of undigested food stuff. This animal was anaemic and emaciated, the temperature of its ears and horns was normal, the coat was dull and slightly staring, the visible mucous membranes were very pale, and the eye appeared clear and bright, but slightly sunken. The animal generally had a thin wasted appearance. Three days later I met another case in a cow at Birmingham Cattle Market. This cow exhibited similar symptoms to the Jersey bull, but in addition the animal was lame in both hind feet and was blowing very badly, respirations being 73 per minute. The cow was slaughtered the same day, and I had an opportunity of making a post-mortem examination. The lesions which I found I will describe later.

The clinical symptoms of Johne's disease frequently develop after pregnancy, and in the majority of cases its presence is not even suspected until the diarrhoea and emaciation are ushered in. Even then one cannot always rely on these symptoms in order to be certain it is Johne's disease we are dealing with.

LESIONS.

The lesions found on post-mortem examination are confined to the bowels, the mesenteric lymphatic glands and vessels. The mucous membrane of the intestines is very much thickened, and thrown up into folds, producing a very striking corrugated appearance on the lining of the bowels. Being under the necessity of condensing into the small space of a paper, I cannot give in detail the results of many post-mortem examinations which I have carried out on animals affected with Johne's disease. In most cases which I have seen on post-mortem, the mucous membrane of the affected portions of the bowel in the fresh condition showed diffused areas of a pinkish or slightly congested appearance. The surface of the mucous membrane is covered with a peculiar greyish yellow, thin jelly-like material. This yellow slimy substance can easily be scraped off. If one spread a portion of the bowel out and slightly stretch it, the branches of the lymphatic vessels appear thickened and cord-like, and show up clearly through the mucous membrane. Previous to the disease being so well known as it is at present, it was frequently mistaken for tuberculosis, and most investigators, when describing it, made a special point of the absence in the bowels of anything of the nature of ulceration, which is frequently seen in true tuberculosis of the bowels.

I mention this point specially, because I have a specimen of bowel here to-day taken from a cow affected with Johne's disease with what appeared to me to be beginning ulceration. Early last month I made a post-mortem examination on a cow, which I have already mentioned was in Birmingham Cattle Market. In this animal the heart, lungs, liver, spleen, and kidneys appeared to be normal, the mucous membrane of the small and large intestines showed hypertrophy and corrugating, but this

was most marked in the large bowel. In addition, I also found at three different points in the bowels (two in the caecum and one in the colon) what appeared to be a form of ulceration. Each lesion was a small tumour or swelling in the mucous membrane. The highest point of each one in the lumen of the bowel was congested, and the centre of the congested area necrotic. I had already seen this in one former case of Johne's, but not nearly so well marked as in this one. Of course these necrotic lesions may be only complications occurring coincidentally with the Johne's lesions.

The mucous coat of the intestines is the only one which seems to be involved in Johne's disease. This coat is hypertrophied sometimes to four times its normal thickness; the membrane becomes so expanded without a similar expansion taking place in the muscular coat of the bowel, that the mucous coat is necessarily thrown into the characteristic folds which we see on opening the bowels. The lymphatic vessels and mesenteric lymphatic glands are also swollen; the glands on palpation are softer than normal, and on section are moister; on section, the mucous membrane appears to be filled with thick serum; on sections of the bowels examined microscopically the villi on the mucous membrane appear altered; they are irregular in shape and thickened. Epithelioid cells are lodged in the tissues round the villi, and in the mesenteric lymphatic glands and their ducts. These epithelioid cells are very large and have acid-fast bacilli in their interior. The bacilli are not isolated, but are found in masses clumped together.

Very rarely do you find Johne's disease and tuberculosis in the same animal. I have seen only one case during the past three months. I have made a thorough search for tuberculosis during the past three months in all cases of Johne's disease which I have had an opportunity of examining on post-mortem (13 in all) and not in one have I succeeded in detecting any traces of tuberculosis. If an animal affected with Johne's disease is slaughtered during diarrhoea, and a scraping from the bowel is examined microscopically, enormous numbers of acid-fast bacilli will be found; but if the animal had not recently been affected with diarrhoea previous to the examination, the bacilli may be rather sparse and difficult to find. Indeed, in some cases it may be necessary to examine scrapings from several different portions of the bowel. This may occur in cases which microscopically seem very pronounced.

The lesions as they occur in sheep are described by Stockman in *The Journal of Comparative Pathology*, vol. 24, part I. He states as follows: "The lungs and heart were normal; the liver very fatty; the kidneys were normal; the rumen, reticulum, and omasum were also normal; but the abomasum showed a few small areas of congestion. The small intestine was thickened and showed numerous small hæmorrhages under the mucous membrane. The surface of the mucous membrane was coated with a white creamy mucus, but it showed no corrugation similar to those found in Johne's disease in cattle. The large intestine showed zebra markings and a few small hæmorrhages under the mucous coat."

In scrapings from affected portions of the bowel and mesenteric glands he found on microscopical examination acid-fast bacilli. Besides these specific lesions, evidence of Johne's disease is usually manifest by a very emaciated and markedly dropsical condition of the carcass. Although in one or two cases I have seen the anasarctous condition of the carcass was not present, in most cases it is a most noticeable condition. Frequently the loose cellular tissue seem more or less bags of fluid. In such cases the carcass neither dries well nor sets well. The extent of this dropsical condition of the carcass is not necessarily an indication of the degree of the bowel alterations. I have seen marked bowel lesions with little emaciation or dropsy, and marked emaciation or dropsy with comparatively slight bowel alteration. But

while the extent of the carcass and bowel alterations are not necessarily co-related in extent, yet as a general rule there seems to be a relation.

DIAGNOSIS.

The early diagnosis of Johne's disease, as of other specific contagious diseases, is important from a prophylactic point of view. By recognising the disease in a herd at an early stage, one has a better opportunity of preventing its spread and more quickly and economically eradicating it. We are all aware that bovines are the subject of other forms of diarrhoea and wasting than that seen in Johne's disease, and unless we have some means of making a reliable diagnosis, we are liable to confound the disease at certain times with chronic tuberculosis, or in other cases with parasitic enteritis. When tuberculosis is suspected it can be definitely settled by injecting the animal with tuberculin, and if there is no reaction it excludes the possibility of tuberculosis.

The point, then, to be considered is, what is the best means of detecting the disease, particularly during its early stages. It is the absence of the characteristic clinical symptoms (*i.e.*, diarrhoea and emaciation) of the latter period which renders diagnosis at first rather difficult. The faeces or scrapings from the rectum may be microscopically examined for the presence of acid-fast bacilli. The method I adopt for taking a scraping of the bowel is as follows:

The rectum is emptied and syringed out with clean water. Then a watch glass is passed with the hand into the rectum, and with the edge of the watch glass the bowel is scraped from within outwards. Portions of the scraping are thinly spread with a platinum loop in a cover glass, fixed by heat, stained by the Ziehl-Neelsen method, and examined microscopically with oil immersion lens.

Although this method is successful in a certain percentage of cases, failure to find the organism does not necessarily prove that the animal is free from the disease, for, as I have already intimated, the organisms may be very numerous in such a scraping at certain periods and comparatively sparse at other periods. This shows of course that microscopic examination during the life of the animal is useful but not infallible.

In 1909, Bang, of Copenhagen, employed tuberculin prepared from avian tubercle bacilli as a medium for diagnosis of Johne's in cattle. The dose he injected varied from 15 to 35 mm. and he asserts that animals affected with Johne's disease re-act when tested with this form of tuberculin, as tuberculous cattle do to the ordinary tuberculin.

In 1910, Horne, of Christiania, experimented with avian tuberculin on a suspected calf, the animal having previously failed to act when tested with the ordinary tuberculin prepared from bacilli of the bovine type. He records that when he injected hypodermically the avian tuberculin the animal gave a rise of 3.8 F. eight hours afterwards. At later periods he tried the ophthalmic and cutaneous methods of testing on the same animal, and states that he got a positive result on both occasions.

In 1911, Male, of Reading, in a paper read at the meeting of the Royal Counties Veterinary Medical Association, gives a record of his results in the application of avian tuberculin on two herds in which cases of Johne's Disease had been met with. Those animals which he considered re-actors gave an average rise of 2.5 F. In a private conversation with Mr. Male, he stated that he had been successful in eradicating Johne's Disease from both herds.

Although these results would seem to be positive, and point to this form of tuberculin as being useful as a diagnostic agent in Johne's Disease, I am still of the opinion that we ought not to be too hasty in accepting it as such until we have seen the result of its applica-

tion on large numbers. So far it has only been employed among a few. When it has been more extensively used we shall be in a better position to gauge its usefulness and know what reliance we can place upon it. We know that when ordinary tuberculin was first introduced there were many contradictory reports regarding its action, and it was only after a large number of statistics had been collected and sifted that it was placed in its true place. Hence in this early and experimental stage of the use of avian tuberculosis as a means of diagnosis for Johne's Disease it is necessary, to a certain extent at least, to receive the results with a modicum of caution. As the causal organism has now been grown outside the animal body, we may reasonably expect to see in the near future a reliable diagnostic agent being prepared from the organism itself. If the Tuberculosis Order becomes law, and veterinary inspectors are given power to seize animals affected with open tuberculosis, it will be difficult in some cases to decide at once if the animal is affected with tuberculosis or Johne's Disease. As each one is a contagious disease which we hope to eradicate, it would facilitate matters if both diseases were included in the same Order.

PROPHYLACTIC MEASURES.

All infected or suspected animals should be isolated and housed. If they have been previously housed, the stalls or boxes occupied by them should be thoroughly disinfected, their faces when removed should be covered with quicklime and should not be spread on pasture land. If this is not possible it should be kept for several months before being used. If the suspected animals are in milk and are in fair condition I think it advisable to slaughter, as rapid emaciation may set in, and affected animals which get into low condition never regain a well nourished one. As a preventive, Meissner recommends subcutaneous injections of an emulsion of lymphatic glands from affected animals.

MEAT INSPECTION.

In the case of foreign meat which is of course imported unaccompanied by the offal, it is impossible to tell if the animal has been affected with Johne's disease, and the carcase is judged on its merits. Newly slaughtered animals that are affected, in which the carcase is drop-sical and does not set well are condemned, but if the carcase is well nourished, dry, and sets well, there is to my mind no justification for condemning it.

In conclusion, I must express my thanks to those who have assisted me. First to Mr. Malcolm, who assisted me with his advice on many points. To Mr. Hotherstoll I am indebted for acquainting me with cases of Johne's disease he met with in the markets. And lastly, to Messrs. Twort and Ingram who have provided me with cultures of Johne's bacilli which I have with me to-day.

DISCUSSION.

Mr. TRIGGER first complimented the essayist upon the manner in which he had prepared his paper. He was free to confess, what was no doubt true of many others in the room, that although he had several times met with Johne's disease, he could only recall a few cases in which he was certain it was Johne's disease until after the post-mortem. He had experienced considerable difficulty in distinguishing it from tuberculosis of the bowels during the lifetime of the animal. He had noticed that the diarrhoea was intermittent in this disease, which was not the case with tuberculosis of the bowels, and he believed, also, in Johne's disease there was a thirst which was not to be seen in other cases. There was undoubtedly a characteristic appearance about Johne's disease which enabled them to recognise it at once upon post-mortem. He had yet to learn of any treatment that was of the slightest avail, and as he had not heard of anyone successfully combating the disease,

he believed the better plan was to slaughter the animal straight away.

Mr. GOLD said Mr. DeVine had dealt with the subject in a most lucid manner, and it had been a great pleasure to listen to him. To his mind, the most interesting part of the paper was the announcement that two gentlemen had been able to cultivate the bacillus outside the body of the animal. As a country practitioner he came across this class of case in different herds, and he was often at a loss to know what to do, either by way of treatment or in advising clients. Anything definite, therefore, which he could learn about this disease he was anxious to know. They had to be very careful in distinguishing between Johne's disease and tuberculosis of the bowels. Personally, he had tested two or three herds with avian tuberculosis with results that were more or less satisfactory. Mr. DeVine told them that his experience was that the disease was most common in animals three years old and upwards, but in his district he had seen it in yearlings. In young animals he generally found that it ran a very severe course. He believed there were lots of cows slaughtered suffering from this disease which showed little of what might be called the diarrhoea symptoms. He had had no result whatever from treatment. They certainly ought to be able to differentiate between Johne's disease and tuberculosis of the bowels; probably Mr. Trigger had not as much faith in the tuberculin test as some people. The clumping which Mr. DeVine had referred to was a useful characteristic, and he thanked the essayist for reminding them of it. It was a serious matter that the incubative period was as long as from eight to twelve months, because they never had an opportunity of detecting the mischief at a period when it might yield to treatment. The smell had often enabled him to suspect what was the matter.

Mr. FORSYTH said that unfortunately he had not had the opportunity of following his cases up in a scientific manner, but there was one peculiarity he had noticed about his cases. That was, that they occurred on ground that was over-run with poultry. If it was not exactly an avian bacillus, he fancied it was closely related to it. He had never noticed anything different in the smell of the discharges. The only slight aid he had ever had to diagnosis was that it did not respond to the treatment which was generally successful in ordinary cases of diarrhoea.

Mr. MURRAY said he would like to know whether any attempt had been made to get an extract from this bacillus on the same principle as the extract which had been obtained from the bacillus of tuberculosis, with a view to its being used as a diagnostic agent. He had had no experience of the disease, but from what he had heard that afternoon, it seemed to be very difficult to distinguish it from tuberculosis, both clinically and pathologically. The bacillus seemed to belong to the same class of bacillus as tuberculosis. Tuberculosis of the bowels was chronic and in many cases, to begin with at all events, the diarrhoea was intermittent, whilst very often they had considerable thickening of the mucous membrane of the bowels. In the case of wasters, he thought the ordinary tuberculin test was not of much use, because he had seen animals in the last stage that gave no re-action to the test.

Mr. COE said he was glad to say he had had very few cases of Johne's Disease. He would like to ask Mr. DeVine what he suggested should be done after the animals had been tested with avian tuberculin. Would he care for them to go to Birmingham Cattle Market? If he found them there, would he object very much? Was there likely to be any curative serum or vaccine discovered? He heard that a number of cattle had been tested at Derby, but he did not know with what result.

Mr. J. R. CARLESS said he had always found great difficulty in making a satisfactory diagnosis. At one

farm, where his client kept a valuable shorthorn herd, this disease proved a very serious loss to him. Time after time some of these animals would waste away and they had to be destroyed. He made several post mortems and always found that the mucous membrane in places was in a very remarkable condition, thickened in places and then for some space the bowels would be quite normal, and then more thickening and a patch of inflammation. As far as treatment went, he had met with no success, and he had tried practically everything he could think of. He thought the best thing in the long run was to have the animal slaughtered and buried or cremated. As far as treating the land was concerned, he was a firm believer in dressing the pastures with salt. At one farm where he had done that he had been very successful.

The PRESIDENT said he was particularly indebted to Mr. DeVine for stepping into the breach that afternoon and delighting them all with such an able and instructive paper. He himself was a town practitioner and therefore did not see much cattle practice. He was, however, much interested in the subject of Johne's disease and was especially struck by the mention of avian tuberculin. Mr. Forsyth had mentioned that he noticed the disease was prevalent on ground that was over-run with poultry, and it seemed as though the only distinction was in the culture. Beyond the clumping that had been referred to, there did not seem to be much to distinguish it from ordinary tuberculosis. He should like to ask why avian tuberculin was suggested rather than have a serum derived from Johne's disease itself.

Mr. DeVine, in reply, said he was afraid he had been a little misleading in one respect. Most of them seemed to think that Johne's disease was difficult to detect. He thought that every veterinary surgeon ought to be able to detect it, and certainly on a post-mortem. The lesions were so characteristic and if there was the least doubt about it, their opinion could be verified by making a microscopical examination. Still, it could nearly always be detected by the naked eye. He did not think there was any other disease where they could get the same lesions. The thickening of the mucous membrane and the condition of the mesenteric lymphatic ducts were safe guides. With regard to the living animal, he hinted that it would be difficult to differentiate between Johne's disease and tuberculosis, but where they got diarrhoea they generally got an enormous quantity of bacilli in the feces. Mr. Trigger thought there was an unusual thirst. He (Mr. DeVine) thought there was thirst in all cases of diarrhoea, because of the great quantity of fluid that was lost to the body. Wherever they had tuberculosis in an advanced stage there was coughing, but there was no coughing in Johne's disease, except as a complication. There was also an elevation of temperature in other diseases which was not found in Johne's. With regard to diagnosis on post mortem, if they had tuberculosis of the bowels there was ulceration of a distinct type, which was absent in Johne's disease. Mr. Gold said with regard to the bacilli he could not tell sometimes whether it was Johne's disease or tuberculosis when examined microscopically. Well, he did not know anyone who could, but in Johne's disease, there was the clumping together, which was a characteristic of the utmost importance in enabling them to come to the right conclusion. Mr. Forsyth's point about affected animals having been on ground overrun by poultry was a very interesting one, and it might be that there was some connection between Johne's disease and avian tuberculosis. As to whether a serum was being manufactured from Johne's bacillus, and why it was not used before avian tuberculin was tried, they must remember that it was tried three or four years ago, and Johne's bacilli had only been successfully grown outside the animal body within the past few months. He did not attach too much importance to avian tuberculin as a

diagnostic agent, and now that they were growing the bacillus artificially in the laboratory they might reasonably look forward to a serum being manufactured which would be useful as a diagnostic agent, and even to a vaccine which might be used as a curative or a preventive agent.

Mr. TAYLOR asked whether there was a sub-normal temperature in cases of Johne's disease.

Mr. DeVine said he did not know about that, but he had never seen any elevation in the temperature.

A vote of thanks to Mr. DeVine for his paper was accorded him on the motion of the President, seconded by Mr. Heelis, and also for his bringing such an interesting example of an affected bowel, and microscopic specimens for inspection.

A SPECIMEN.

Mr. J. R. CARLESS brought with him as specimen, cervical vertebrae of a cob mare, fifteen years old. She had an accident when turned out as a young animal, injuring herself in the curious way shown in the specimen. She got her own living, but held her head sideways when grazing, and although she was not worked she had bred twelve foals.

The PRESIDENT said they were always grateful to members who brought specimens or interesting cases, and in the name of the Association he thanked Mr. Carless for showing them this one.

Before separating, the members present had tea together.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

A "Vet's" Qualifications—Challenge at Bridlington.

At the Bridlington Police Court on Saturday afternoon, May 25, during the hearing of a summons against Arthur Mews, a pork butcher, of Quay Road, for cruelty to a pig. Leonard Morris Verney, veterinary surgeon, who was called for the defence, had his qualification challenged by Inspector William Roberts, of the Royal Society for the Prevention of Cruelty to Animals, who prosecuted.

Mr. Verney swore he was a qualified veterinary surgeon, but when a copy of the official register of the members of the Royal College of Veterinary Surgeons was produced by the inspector, Mr. Verney was unable to find his name. He said his diploma was at home, and that he had seen his name in a register. He swore he qualified in London on July 30th, 1900.

The Bench suggested an adjournment for Mr. Verney to prove his qualifications, but Mr. West, solicitor for the defence, withdrew Mr. Verney's testimony, and defendant was fined 30s. for cruelty.

The Bench stated they would afford Mr. Verney an opportunity to prove his qualification next Saturday if he cared to avail himself of it.

Mr. Verney, who had been practising in Bridlington for some years, seemed to be greatly embarrassed, but he maintained his possession of the qualification most emphatically to the magistrates, and stated that the Register he had been shown his name in was in possession of a veterinary surgeon at Hunmanby, but he could not explain why his name was missing from the official Register.—*The Daily Mail* (Hull).

Unlawful Use of a Description.

At the Tamworth Borough Sessions, on Wednesday, May 8th, before the Mayor (Mr. H. W. Harston), Ald. A. Dyer, and Ald. A. J. Bartle.

Robert Henry Rymer, 1 Victoria Road, Tamworth, was summoned on the information of John Marson, ex-inspector of police, on behalf of the Royal College of

Veterinary Surgeons, not being on the Register of Veterinary Surgeons, and not holding at the time of the passing of the Veterinary Surgeons Act, 1881, the veterinary certificate of the Highland and Agricultural Society of Scotland, that he did on March 30, 1912, at No. 1 Victoria Road, unlawfully use and take an addition and description, to wit, veterinary surgeon.

Defendant pleaded not guilty.

Mr. John Matthews prosecuted on behalf of the Royal College of Veterinary Surgeons. Defendant was an assistant to a veterinary surgeon practising in Tamworth some time ago, and since then he had practised on his own account. An assistant to a duly qualified practitioner need not himself hold any qualification, but it was illegal to practise as a veterinary surgeon unless he was on the register. This appeared to be a peculiarly flagrant offence. Mr. Rymer had not only practised as a veterinary surgeon in Tamworth, without any qualification, as he was instructed, but he had issued cards and sent out bills on printed bill heads, and had put up a plate near his front door, on all of which he described himself as a veterinary surgeon. Mr. Rymer was an educated man, and had acted as assistant for veterinary surgeons for some years, therefore he must know perfectly well that all those acts were quite illegal, and rendered him liable to heavy penalties under the Act of Parliament. The Act which dealt with the matter was the Veterinary Surgeons Act of 1881, which embodied the provisions contained in the old Veterinary Surgeons Charter. The Act provided that the Council of Veterinary Surgeons should cause correct copies of the register of veterinary surgeons at least once a year to be printed, and such copies should be admissible in evidence until the contrary may appear that the persons therein named were on the register. If he put in, as he proposed to do, an official copy of the register now in force, and the defendant's name did not appear therein, the onus lay upon him to show he was now on the register, or that he had been admitted a member of the College of Veterinary Surgeons since the register was published. He did not suppose defendant could do that. Mr. Matthews quoted a further provision of the Act, showing that defendant was liable to a penalty not exceeding £20. He produced the sealed copy of the College for the prosecution. He only had one witness, Mr. John Marson, who would produce a copy of the plate which appeared on defendant's house, on which he described himself as a veterinary surgeon, and that of itself was quite sufficient to support a conviction. Authorities showed it was quite clear that the putting up of a plate containing the description of veterinary surgeon was quite sufficient to justify a conviction for a breach of the section. It was not only in the interests of the veterinary surgeons, who were a body of men who had to establish their position and their right to practise at great expense of attending college, and passing examinations, but it was obviously in the interests of the public that their rights should be protected in order that unqualified persons might not attempt to practise the art of veterinary surgery. At any rate, whether an unqualified person did practise or not, he had no right to represent to the public that he was qualified, that was obviously wrong and a forgery, because the persons would naturally assume, seeing a plate of that character on a man's door, that he was duly qualified.

John Marson, Bonehill Road, said there was a plate near defendant's front door, about 18 inches by 15 inches. The inscription on the plate was "Robert H. Rymer" (there was a line underneath that) "late assistant to J. W. Thomas, M.R.C.V.S." (there was another line underneath that), "Veterinary Surgeon." The letters "Robert H. Rymer" were about two inches deep, the next, "late Assistant to J. W. Thomas, M.R.C.V.S.," were in about

one inch lettering; "Veterinary Surgeon" was in the same size letters as "Robert H. Rymer." The plate intended to purport that Robert H. Rymer was a veterinary surgeon. He had searched the Register of Veterinary Surgeons, published by Act of Parliament, and could not find defendant's name in it.

The Register was put in.

Cross-examined: When he went to see the plate he did not see defendant. He had not asked him to take the plate down.

Defendant gave evidence, and said it was wrong to say a man could not practise as a veterinary surgeon. There were as many unqualified men as there were qualified men acting as veterinary surgeons. A man could practise so long as he did not hold himself out to be a veterinary surgeon. That he had never done, he had merely stated that he was late assistant to J. W. Thomas, M.R.C.V.S., veterinary surgeon, so that clients would know him. He gave the order to a man to supply the plate, and he left it to him. If it was wrong he was very sorry. If it was necessary to have it altered or taken down for ever he would have it done.

The Mayor said defendant must know that he had no right to exhibit such a plate.

Defendant: Is there any law to stop me saying I was late assistant to J. W. Thomas?

Mr. Matthews (cross-examining): Do you say you have never held yourself out as a veterinary surgeon?

Defendant: I don't think so.

Will you swear you have not?—No answer.

Mr. Matthews produced to defendant one of his cards, and afterwards handed it to the Bench.

Do you mean to say that card does not hold yourself out to be a veterinary surgeon?—The public all round the country know I am not.

Never mind the public, do you mean to say it does not represent you as a veterinary surgeon?—To some people it might.

Is it possible to hold any other view?—Yes, I think so.

Mr. Matthews produced a bill which defendant admitted he issued. He did not answer whether that bill represented him as a veterinary surgeon.

You sent out that bill, and you know you cannot recover the fees?—Oh yes I can, I can for medicines, if not for the visits.

Mr. Matthews drew the attention of the Bench to the sizes of the type, and said he thought the bill was a more flagrant case than the card. It was palpable that the defendant had represented himself not only on his cards, but on his bills as a veterinary surgeon.

Defendant: It was perfectly well-known I was not a veterinary surgeon in Tamworth.

Mr. Matthews: If it was perfectly well-known you were not a veterinary surgeon, why do you represent yourself to be so?

Defendant: Where at?

Mr. Matthews: On these cards and bills.

Defendant: There might be a little mistake in the printing. I merely held out that I was late assistant to Mr. Thomas. Had I wanted to represent myself as a veterinary surgeon, I should have described myself as R. H. Rymer, veterinary surgeon.

The magistrates consulted, and the Mayor afterwards stated that they considered the case was entirely proved, and that defendant had no right to use those letters at all. He would not have thought a gentleman like himself would have bothered, because he appeared to have some amount of ability at that sort of thing, and was known in the district. They must protect that institution, and defendant would be fined £5 and costs.

Defendant: Thank you, sir.

On the application of Mr. Matthews, the magistrates allowed a witness's fee for Mr. Marson, and an advocate's fee of £2 2s.—*The Herald* (Tamworth).

F.R.C.V.S.—A CORRECTION.

In the list of passes published last week the name Alex. M. Monro should read ALEX. MONRO.

Personal.

MULVEY.—On the 22nd May, at Skansen, Chelmsford, the wife of W.S. Mulvey, F.R.C.V.S., of a daughter.

OBITUARY.

Major DANIEL CHAMBERS PALLIN, late A.V.C., Gillingham, Kent. New Edin: April, 1874.

WILLIAM DUNK ROGERSON, M.R.C.V.S., 360 Richardson Street, Middle Park, Melbourne, Victoria, Australia. Graduated, Lond: Dec., 1867.

Mr. Rogerson died on Dec. 17th, 1911, from pneumonia.

Colonel John Anderson, A.V.D.

A correspondent writes:—

Your announcement last week of the death of Col. John Anderson, A.V.D., brings back memories of that remarkable personality. Known throughout the length and breadth of India, one might almost write Asia, for his extraordinary knowledge of the Arab horse and his enthusiasm for racing, there is one side of his life probably quite unknown to the present generation.

It was in the sixties that a war was being waged in the Antipodes, with an enemy as remarkable for cunning

as ferocity. Two columns were converging on one point, and a message of vital importance had to be sent from one to the other through the heart of the enemy's country. It was John Anderson who volunteered to carry this, and succeeded in getting through and delivering it. He was the first veterinary officer to be mentioned in Despatches, for this act of gallantry could not be officially overlooked. One further fact was never, we believe, referred to by the authorities, but Artillery officers who were present in the New Zealand War will remember that in the storming of one of the enemy's stockades, every man but one was shot down at one of the guns. John Anderson and a sergeant worked the gun between them for the remainder of the day.

You have recorded his extensive war experience, but only those privileged to serve under him know of his enthusiasm and endurance on service. During the Egyptian War of 1882, having remained behind at the Base to complete his arrangements for the sick, he rode across the desert alone during the night, in order to be present at the Battle of Tel-el-Kebir, and provide for the sick and wounded animals of the Indian contingent. His report on this Campaign you published a few months ago.

It will be some years before this remarkable man is forgotten in India. His extraordinary knowledge of horses and racing matters, his absolute integrity, his infectious laughter and gaiety, and the bigness of his heart will long be cherished by his friends—who were legion.

Several communications are unavoidably held over.

DISEASES OF ANIMALS ACTS 1894 to 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
G.T. BRITAIN.													
Week ended May 25	14		14				1	1	39	64	1	66	1003
Corresponding week in	1911	19	21				6	7			1	83	756
	1910	42	49				5	47			3	38	180
	1909	33	38				5	43			2	53	140
Total for 21 weeks, 1912	449		502				69	149	1917	4307	158	1407	17863
Corresponding period in	1911	411	503	1	18	88	241				297	1016	10737
	1910	662	813			151	407				310	521	4676
	1909	604	799			254	1014				442	707	6432

Board of Agriculture and Fisheries, May 28, 1912.

† Counties affected, animals attacked: Middlesex 1.

IRELAND. Week ended	May 25	Outbreaks						...	...	7	118
					
Corresponding Week in	1911	...	...	...	...	...	...	...	5	...	...
	1910	...	...	...	...	...	...	...	6	4	75
	1909	...	...	...	...	...	...	...	1	8	60
Total for 21 weeks, 1912	...	2	2	...	...	...	...	37	250	110	1120
Corresponding period in	1911	5	5	...	...	...	...	38	236	49	816
	1910	4	6	...	...	...	...	33	326	40	906
	1909	3	3	...	...	...	...	43	269	24	203

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 28, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

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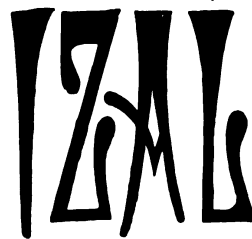
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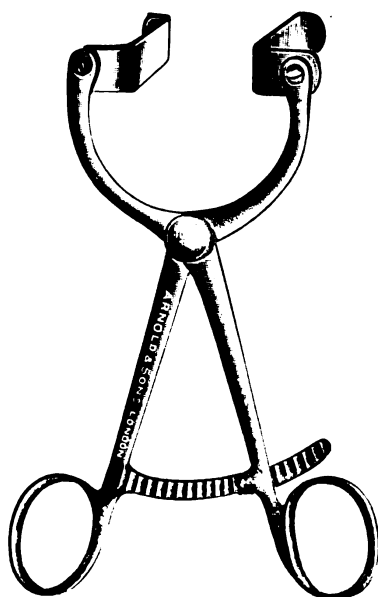
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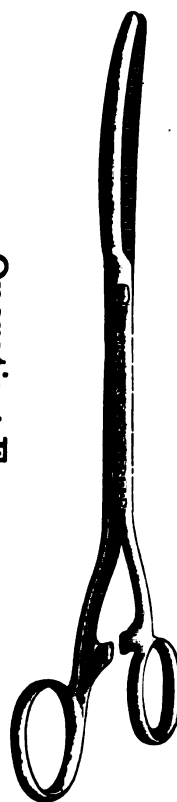


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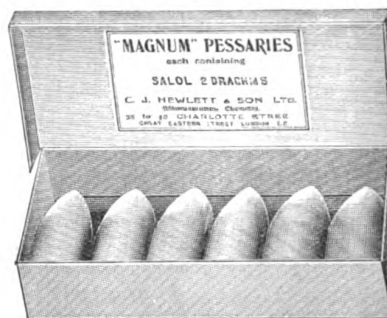
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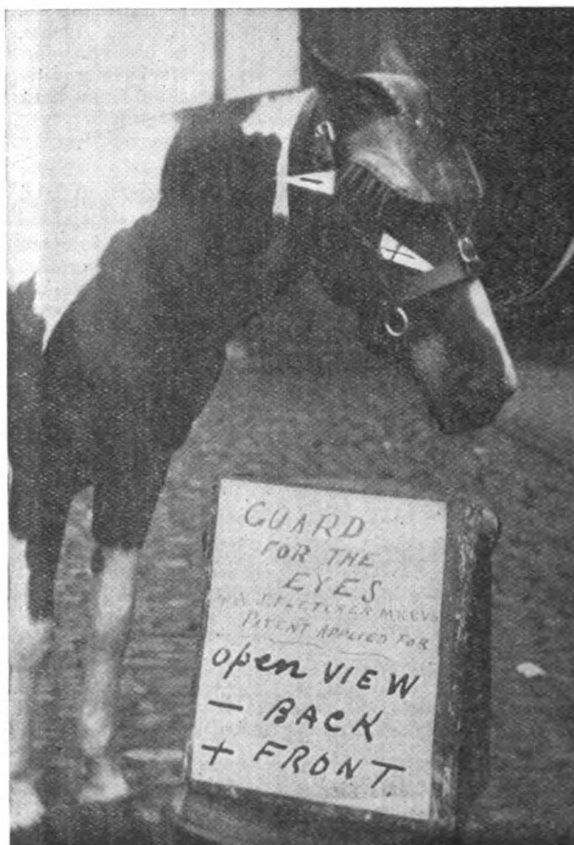
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THE VETERINARY RECORD

A Weekly Journal for the Profession.

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THE ANNUAL GENERAL MEETING.

Very little need be said of the Annual General Meeting; but that little must certainly commence with a note of congratulation. The poll was a heavy one—unusually heavy, considering the quiet character of the election—and every candidate elected to the Council is a pledged supporter of the pending Bill. Thus the profession, quietly and almost as a matter of course, has repeated the verdicts of previous years, and again signified its approval of the measure. That approval becomes all the more emphatic from the high polls gained by the candidates most closely identified with the Bill: and will certainly strengthen the hands of its promoters in Parliament.

The discussion upon the Report was quiet, and only two items call for notice. The first—the announcement that £1000 worth of Consols have been sold since the publication of the balance sheet—is certainly depressing. But it will surprise no one who has read and remembered the Report of the last Council meeting; and would certainly supply another argument, were one needed, for the passage of the Bill. The second point relates to the Bill, viz, the suggestion that an attempt should be made to enlist the support of Irish M.Ps. for the measure. Doubtless full weight will be given to this proposal, which may prove a very useful one. Meanwhile, necessarily confining ourselves this week to a brief note upon the strictly business portion of Wednesday's proceedings, we may congratulate Prof. Mettam and the Irish members upon a pleasant and successful Annual General Meeting.

THE "NATIONAL" MEETING, 1912.

The Annual Meeting of the National Veterinary Association will be held in the Town Hall, Manchester, on July 24th and 25th. On the 26th the members are invited by the Lancashire Veterinary Association to an excursion and picnic at Rudyard Lake in Staffordshire.

The papers for consideration are—

Veterinary Education (pre- and post-graduate), by General F. Smith.

Phalangeal Otitis, by Wm. Hunting.

Bovine Tuberculosis, by Prof. Delépine.

Abdominal Surgery in Veterinary Practice, by Prof. Woodruff.

The discussion of the papers will be opened by Prof. Share-Jones, Prof. Macqueen, Prof. Ainsworth Wilson, and Prof. O'Connor.

The headquarters will be the Midland Hotel. This year is the Jubilee of the Lancashire Veterinary Association—the oldest of our local societies—and a full attendance in Manchester might be

anticipated if that event only were to be honoured. With the "National" and its interesting programme we shall expect the meetings in July to make a record. The Local Secretary—Mr. G. H. Locke—will, we feel sure, give any information that may be required, as will the General Secretary.

H.M. INSPECTORS OF HORSES.

Under the Coal Mines Act inspectors of horses in mines are to be appointed. It was expected that veterinary surgeons would have been chosen, but the regulations issued by the Home Office show that an inferior class of person is wanted. The work is to be whole time, the salary £125 a year and retirement at 65 without pension. We much doubt that competent persons will be obtained for the offices, especially as candidates must have had "experience of the care and treatment of animals in mines"—pit horse-keepers?

OUR BENEVOLENT SOCIETIES.

To-day we publish reports of the work of our two benevolent associations—the "Manchester Society" and the Victoria Veterinary Benevolent Fund. The first-named body is also, of course, a defensive union; but at present we only notice the function which is common to both societies, viz., that of benevolence. Between them these two associations conduct the whole of the organised benevolent activity within the profession; and it cannot be said that its sum is creditable to us as a body. The Victoria Society voted little over £150 in relief last year, and the Manchester Society only £103; and in each case the reason is the same. Both Societies would distribute more money if they could; but neither has sufficient to give. Nobody supposes that £250 adequately relieves all the distress existing within our ranks; but, without further support from the profession, the Societies can do no more than they are doing.

A larger membership of these Societies, and a more general interest in their work, would at once help to discover cases deserving of relief which otherwise might remain unknown, and render it possible to assist them—and to do so to more purpose than is now practicable. The grants that can be made at present, however valuable to the recipients, are far from being sufficient in most cases. Ten shillings a week is a small enough sum for a professional man's widow, but even that can only be made possible by an increased support of the Societies by the profession. Every member ought to make a point of subscribing to at least one of these Societies; and the subscription of each is so small that most of us could very well afford to belong to both.

BONY TUMOUR OF THE MAXILLA.

Subject: A Chestnut hackney mare.

At two years old the patient developed, on the outer side of the left inferior maxilla and opposite the position of the 3rd lower molar tooth, a very painful, hard swelling about the size of a goose egg.

The lesion had made its appearance whilst the animal was at the ley and was first seen when the filly was brought up in the early part of October. She was then in very poor condition and had evidently been able to eat only with great difficulty.

At this time I was asked to advise as to treatment. After the application of remedial measures for a few weeks, the acute pain became less evident but the patient still resented any manipulation of the affected part, and masticated food very slowly with the teeth of the opposite side, the head being turned so that the teeth of the left side were carried higher than those of the right. As there appeared to be no reduction in the swelling, a blister of biniodide of mercury was applied, but with no appreciable benefit.

The following summer the mare was cast, and on examining the inside of the mouth it was found that the 3rd temporary molar tooth was ready to be shed. This tooth was removed with the hand. No abnormality appeared to be present in the mouth at that time. The bony enlargement had very much increased in size, and extended to the margin of the masseter muscles and to the inferior border of the ramus, causing a well-marked prominence at this point. The bone was so thickened, too, as to encroach upon the inter-maxillary space.

The point firing iron was applied deeply to the growth, and a biniodide blister again put on. No improvement was observable as the result of treatment, indeed the tumour increased continuously.

It was noticed towards the end of the summer in which the mare had completed her third year that pustules of varying size and in different and remote parts of the lesion made their appearance, burst and discharged a yellow pus.

The possibility of actinomycosis suggested itself to me although the clinical appearances did not quite resemble cases of that disease previously seen in bony tissue. The pustules were not connected with the bone, and a microscopical examination of the pus revealed only staphylococci. The application of a solution of iodine daily for three weeks was followed by a stoppage in the development of the pustules.

The following spring the patient was brought to my infirmary, and I decided to operate on her. She was put down and chloroformed. The skin over the growth was set back, and by means of a large bone saw a piece of bony tissue irregularly circular in outline, about 6 in. diameter and $3\frac{1}{2}$ in. to 4 in. thick in the centre, was removed from the outer side of the lower jaw. It was then seen that within the bony tumour was contained a sharply defined nucleus of much more compact material about the size of a large orange. The line of demarcation between the two structures was very pronounced.

After trephining with a small instrument in three positions on its circumference, the nucleus was easily levered out of its bed with a chisel-like instrument. There was a moderate amount of bleeding from vessels which entered the bony cavity that had enclosed the nucleus, through a foramen near its centre.

On examination of the orifice it was found that by the removal of the nucleus a communication with the mouth had been established in the situation formerly occupied by the 3rd temporary molar tooth, and that the roots of the 2nd and 4th permanent molar teeth had become partially absorbed owing to the pressure exercised by the tumour.

After arresting the hæmorrhage and dressing the wound with antiseptics the mare was allowed to rise.

On the third day after the operation the patient became very lame on the near fore leg, owing to the formation of a large diffuse swelling about 10 inches in diameter which had developed behind the middle third of the scapula. It was very hot, and painful to digital pressure. There was a disinclination to move the limb, and if forced to do so the leg was dragged. Temperature was 104.8. Respiration 34. Pulse 80. Food refused; mare did not lie down.

The following day a similar swelling formed in the left lumbar region.

It was noticed that two papules had developed on the skin near the wound. The next day these contained pus which was collected and examined microscopically and found to contain staphylococci.

An autogenous vaccine was prepared and injected hypodermically.

A reduction of the fever occurred within 24 hours of the application of this remedy. The swellings remained hot and painful but became more circumscribed. Movement was avoided.

On the second day after injection feverish symptoms were further allayed. The patient took a little food.

A reduction of the swelling of the loins and to a slight extent of the enlargement behind the shoulder took place.

Improvement proceeded daily. One week after injection the mare moved about the box fairly well. The swelling of the loins had disappeared, and the enlargement behind the scapula was very small and diffuse, and passed away completely, together with the lameness, three days later.

Seven weeks after operation the wound passage into the mouth was closed. The mare was then turned out to grass, and healing proceeded uninterrupted, but the jaw was very much thickened.

She was then put to work, and when last seen by me—February of this year—the mare was doing well. The thickening of the bone of the jaw had become very greatly reduced.

The composition of the nucleus of the tumour has given rise to much speculation. It has every appearance of being a perverted development of the third permanent molar tooth.

J. P. HEYES, F.R.C.V.S.

FURTHER NOTE ON "AN IMPROVED METHOD IN THE TREATMENT OF CANKER OF THE HORSE'S FOOT."

By A. W. NOEL PILLERS, F.R.C.V.S.

The peculiar interest and comment which my paper, recently delivered before the Central Veterinary Society, has evolved leads me to contribute the following few additional pages upon the subject. I do so with some little hesitation, inasmuch as my interest in the horse's foot is only that of the general practitioner and not of the specialist. The reasons for publishing the original paper were, if possible, to obtain for Mr. J. B. Chadwick the honour of introducing the method there described, and at the same time to show that canker was curable in a comparatively short time when confined to the sole and frogs. The opinion expressed by this latter statement was certainly not generally held when the paper was written. The essay was printed in *The Veterinary Record* for April 27th, 1912 (No. 1242, p. 675, *et seq.*), together with the remarks of those present at the meeting when the paper was discussed. The same number of that journal contained an editorial upon the subject. In *The Veterinary Record* for May 4th, 1912 (No. 1243, p. 689) there appeared an article by "Paracelsus" entitled "The treatment of Canker of the horse's foot," and two letters (p. 698) on "Canker of the horse's foot," by Messrs. T. Aubrey and A. W. Lawson. The following issue of the same journal contained a note by "Scrutator" entitled "The ancient and modern treatment of Canker" (May 11th, No. 1244, p. 704). Roughly speaking, the points raised in the discussion and articles which have since appeared may be grouped under three headings, viz. :—

- (1) That the treatment was not new, but in fact was ancient ;
- (2) That one very respected authority doubted very much whether 20 of the 21 recorded cases were canker at all, and ;
- (3) That the favourable results were obtained by the application of a degree of care and detail not usually bestowed upon these cases.

I propose to consider each of these points in detail, and it is for this purpose that I have again ventured to write upon the subject.

Since reading "Scrutator's" excellent article it is impossible to deny that the method of obtaining pressure described by Budd in 1816 is identical with that mentioned in my paper. The possibility of its recent introduction therefore unfortunately falls to the ground. Perhaps the article by "Paracelsus" also establishes an early claim to this method of applying pressure. The remarks of this last writer would seem to indicate that he has a closer acquaintance with the British Museum than myself. It would certainly have been preferable to have seen his name at the end of an article which depicted a literary style not unknown to readers of *The Veterinary Record*. It is to be hoped that "Paracelsus" has only recently become aware of this ancient method of treating canker, because if it has been in his possession for many years he certainly has taken upon himself the responsibility for the slaughter of many horses which would not have been so treated had he published his knowledge. The title of the original paper was devised to attract the attention of those who possess the means of literary research, and it has borne good fruit. It is upon the evidence of the above two writers that I consider the method has been shown to be an old one, because it does not seem possible for so many practitioners to have used the identical method "over 30 years ago" and yet to have given it up for methods much less satisfactory. The device has been shown to be about 100 years old, but it is nevertheless a good

one, and in the experience of those who have given it a fair trial it appears to be still the most valuable. Incidentally we have learnt that the method of treatment with which we have been accustomed to associate the name of Mr. Malcolm was really devised by another experimenter, *The Veterinary Record*, April 27th, 1912, (No. 1242, p. 685).

Perhaps the most destructive point brought out in the discussion was the possibility of the recorded cases not being genuine canker. Were this true, any real value that might have been attached to two years work and observation would be so much misplaced trust. Unfortunately I did not deem it expedient to go into the subject of symptomatology, and expressed that point in the paper. It occurred to the writer that most of us possessed fairly consistent ideas as to what constituted canker. Assumptions are admittedly dangerous. Each case of canker presents different symptoms, but they all agree, if untreated, in smell ; discharge ; loss of horn ; deformation of frog or sole ; villous-like, fleshy and vascular proliferation of the exposed sensitive structures. In the following list of cases which I am able to record I still consider it inadvisable to mention repeatedly symptoms and clinical pictures which differ only in age and extent. I have, however, added where possible the names of those gentlemen who diagnosed the cases. The risks of including severe cases of thrush has therefore been greatly reduced.

That the satisfactory results mentioned in the last paper were due to great attention to detail has to be admitted, but similar care, in my own case, had always been extended to other recognised systems of treatment. The results of most of my previous cases were gradual extension of the diseased area, and finally slaughter. I can call to mind many cases that so ended which present day experience would certainly have cured. The records of such cases would be valuable for the present note but they are not accessible to me, and moreover one does not feel inclined now to try other less satisfactory methods for the sake of obtaining records. Attention to detail can certainly be paid by most practitioners, especially if they realise that it is time saving in the long run, and capable of yielding satisfactory results. The editorial of *The Veterinary Record* for April 27th, 1912, rightly questions whether other clinicians will experience the same good results as mentioned in my paper. I there gave an account of 13 cures and 2 failures treated by Mr. J. B. Chadwick, together with 5 cures and 1 destruction treated by Mr. J. Abson's assistant, Mr. R. H. Laycock, giving 18 cures out of 21 consecutive cases. Mr. S. E. Sampson, M.R.C.V.S., Sheffield, who has experimented with the method has been good enough to furnish me with his notes of 5 consecutive cases, of which he has cured 4. Mr. J. Abson, F.R.C.V.S., Sheffield, has been kind enough to allow me to publish the progress of his last cured case, the notes of which have been furnished by Mr. R. H. Laycock, M.R.C.V.S. I have added the last case that I have treated which was also cured. Four consecutive members of the profession have been able to carry out the details of the procedure and obtain good results, so that there appears to be no reason why others should not be able to do the same.

APPARATUS REQUIRED.

Nothing further than that mentioned in the previous paper, save that it is essential to have the rolls of tow ready for use before the operation is commenced. They cannot be satisfactorily prepared at the time.

METHOD.

In addition to the description already given it is necessary to clear up one or two points. In the first place it is essential that the pressure be firm and even,

that is, the healthy horn and diseased tissue should occupy the same plane. If the horn projects, pressure on that point will be increased with resulting necrosis of the underlying healthy structures. At the commencement of treatment the pressure on the diseased area will cause its death, but as healthy tissue appears the degree of pressure should be that of horn over sensitive structure.

The longer the diseased sensitive structures are aloof from the influence of pressure, the more villous, vascular and offensive do they become; and conversely, when pressure is applied by means of hard rolls of tow, the more natural do the sole and frog become. At first shreds of tissue can be removed, later caseous material can be cut through, and finally soft horn, followed on section by hæmorrhage, will appear. A bad case passes through these stages fairly quickly, not yielding where it is difficult to apply pressure or making retrogressive changes where this has been slight or omitted.

In my last paper I mentioned one animal with the wall affected that was destroyed, and another that was sold. The cases recorded here also contain a wall infection that was not cured. At present the wall is unsatisfactory to treat, but that difficulty may yet be overcome. It has been my experience, and I am led to believe that others have noticed the same, that cases affecting the wall are those in which treatment of the sole and frog has been neglected, half-hearted or unsatisfactory. It thus happens that the disease has progressed in spite of treatment, or has been brought to the practitioner's notice when the animal could no longer be satisfactorily shod for work. This is often due to the veterinarian's openly expressed hatred of the disease. Early treatment by a suitable pressure obtaining device would prevent this spreading, and wall infection cases would become rarer.

RECORDS OF CASES.

The following notes on seven consecutive cases are instructive:—

Mr. S. E. SAMPSON, M.R.C.V.S., Sheffield.

Case I. Bay Shire gelding, four years old.

Previous history. March 30th, 1911, owner called for thrush dressing. May 27th, animal brought to surgery and affected with canker of near hind foot, all the frog and bars being diseased. Treated consecutively with formalin solution, chromic acid and powdered burnt alum up to Sept. 7th, without satisfactory progress. The lesion had spread considerably and there was lameness.

Lesions. Near hind foot affected on both heels, whole of frog and its junction with the sole.

Diagnosed as Canker by Messrs. J. B. Chadwick, S. E. Sampson, and A. W. Noel Pillers.

Treatment commenced September 7th. Terminated November 2nd, 1911.

Duration of treatment. Eight weeks.

Remarks. Cured. No relapse. Dressed without stocks. Returned to work after about a month's treatment.

Case II. Bay cart mare, eight years old.

Previous history. Affected with canker for about two years. Occasional dressing of formalin solution had been applied.

Lesions. Near hind foot affected on frog and whole of sole except the region of the toe.

Diagnosed as Canker by Mr. S. E. Sampson.

Treatment commenced October 11th. Terminated December 27th, 1911.

Duration of Treatment. Twelve weeks.

Remarks. Cured. No relapse. Dressed without stocks. This animal remained at work throughout treatment.

Case III. Bay Shire gelding, eight years old.

Previous history. First seen on September 19th, 1910, and treated for a month, when the owner gave up treatment. Purchased for experiment October 5th, 1911.

Lesions. Whole of the sole, frog, and sensitive laminae up to the coronary band at the quarters of the off hind foot affected, also whole of frog and part of sole of near fore limb.

Diagnosed as Canker by Messrs. S. E. Sampson and A. W. Noel Pillers.

Treatment commenced October 5th, 1911. Terminated January 1st, 1912.

Duration of treatment. Twelve and half weeks.

Remarks. The fore foot was cured in about eight weeks, but as the horse had become so bad to dress, and having no stocks, he was destroyed. The hind foot was doing excellently, and the wall lesion although bad was much improved. After three weeks treatment the animal went to work.

Case IV. Bay Shire mare, three years old.

Previous history. Treated for about ten months with formalin.

Lesions. Both fore and near hind foot affected. The frog of each foot being diseased; the near fore sole was also affected.

Diagnosed as Canker by Mr. S. E. Sampson.

Treatment commenced October 20th. Terminated December 27th, 1911.

Duration of Treatment. About ten weeks.

Remarks. Cured. Dressed without stocks. No relapse.

Case V. Black gelding, nine years old.

Previous history. Affected for about ten months.

Lesions. Near fore foot affected on the frog and sole up to the wall at both quarters.

Diagnosed as canker by Mr. S. E. Sampson.

Treatment commenced March 3rd. Terminated April 30th, 1912.

Duration of Treatment. About eight weeks.

Remarks. Cured. No relapse to date. Dressed without stocks. Worked throughout treatment, but later became affected on both hind limbs, which were not treated.

General Remarks. Mr. Sampson adds:—"Most cases of canker are curable by Mr. Chadwick's method. Perseverance and determination, together with skilful use of the knife, are nevertheless essential. If pressure is properly applied there is little need of the hot iron or strong caustics, such as nitric and sulphuric acids, in fact they seem contra-indicated. In my cases stocks were not used, and the dressings were not always so regularly carried out as one would have desired."

Mr. J. ABSON, F.R.C.V.S., Sheffield.

Case VI.—Brown van mare, eight years old.

Previous History. None.

Lesions. Whole of frog of near hind foot affected.

Diagnosed as canker by Messrs. J. Abson and R. H. Laycock.

Treatment commenced April 10th. Terminated May 6th, 1912.

Duration of treatment. Barely four weeks.

Remarks. This animal was dressed in stocks and kept at work. Mr. Laycock adds:—"This case went straight ahead from the start, and made a rapid recovery."

Mr. A. W. NOEL PILLERS, Liverpool.

Case VII. Bay Shire gelding, six years old.

Previous History. None Canker was discovered on examining the feet on arrival home.

Lesions. All save the near hind foot affected. The near fore had the whole of the frog, and sole of inside heel and quarter three-quarters length of frog affected.

Also outside heel seat of corn. The off fore was affected on the outside of the frog for its whole length, and the outside heel of sole. The off hind was the worst, being sound only a portion of the sole on each side of the toe.

Diagnosed as canker by the following veterinarians, Messrs. J. R. Barker, T. Eaton Jones, T. Scotson, and A. W. Noel Pillers.

Treatment commenced March 26. Terminated May 31.

Duration of treatment, nine and a half weeks.

Remarks and progress. All the affected feet were dressed in stocks three times a week up to April 13th, when dressings were applied twice weekly. On April 16th the cross irons were found missing from the off hind foot, and marked retrogressive changes were seen when that limb was again dressed. The worst foot (off hind) was completely cured on May 17th, but both fore limbs, although greatly improved, now began to go back. It was found that too great pressure had been employed, and from that time onwards they gradually progressed, being cured on May 31st. The animal remained at work throughout treatment.

CONCLUSIONS.

In the above series of seven cases, representing twelve affected feet, six animals with lesions on ten feet were cured in an average period of about nine weeks.

Addendum.

Since the foregoing was written, two letters on the subject have appeared in the correspondence columns of *The Veterinary Record*, May 18th (No. 1245, pp. 730-732), one entitled "Treatment v. Experiment," by "Diogenes," and another "An Improved Method of Treating Canker," by Mr. Harry Lomas. The latter writer's remarks concerning dates are interesting, but are eclipsed by previous writers. The records of the 50 cases he has treated, together with his methods, would form a most valuable contribution to this subject, and I trust he may be persuaded to publish them in the near future.

ABSTRACTS FROM FOREIGN JOURNALS.

TUBERCULOSIS OF POULTRY.

Raymond and Chrétien, sanitary veterinarians of Paris, say that tuberculosis has now become very common in poultry sent for sale to that city. In 1908, 31 cases were found; in 1909, 63 cases; in 1910, 397 cases; and in 1911 the total rose again to 766 cases. This increasing frequency results partly from an augmentation of the supplies sent from severely infected regions (Holland) and partly from an increased precision in the methods of inspection. The authors, in a long article, treat the subject in great detail; and the following is a summary of the more important points.

The aspect of the plucked bird may and should cause tuberculosis to be suspected. A tuberculous fowl shows emaciation which, though varying in degree, is almost constant in the disease. The muscles, chiefly the pectorals, are emaciated, and the sternum shows a very salient keel. The limbs appear very elongated, as in the case of very young birds. The skin becomes excessively mobile from the disappearance of the fatty tissue, and is sufficiently transparent for the muscles to be seen through it, their colour being a very pale pink. The pileous bulbs are very prominent, and give the epidermis a rugous, sharpened aspect which is

quite special. These characters are significant to an experienced eye, and indicate the necessity for a further examination, which should bear upon the cervical chain of lymphatic glands, the abdominal viscera (liver and spleen), and the articulations.

Description of the Cervical Lymphatic Glands.—There is in birds, on each side of the neck, running the whole length of the jugular veins, a glandular chain formed of from eight to twelve segments. This bi-lateral chain starts from the pharyngeal region and descends along the neck as far as the thyroid body, which is situated in the region of the first rib. Normally the glands of this chain are elongated, slightly oval, reddish grey in colour, very mobile and friable, and of about the size of a small lentil. They are difficult to find in the healthy bird, being imbedded in fat and connective tissue. They must be distinguished from the thymus, which is a paired gland, diffuse, granular, saffron yellow in colour, very adherent to the skin, and having the same relations with the œsophagus, trachea, and jugular veins. Similarly, they must not be confused with the thyroid body, which is placed quite at the base of the neck in the immediate vicinity of the last glandular segment. The thyroid body is larger than the lymphatic gland, and is very swollen at the centre and bright red in colour.

It is certain that this chain of glands is a set of lymphatic organs. If the lymphatic system of a bird is injected at the point of the bifurcation of the thoracic canal, after previously ligaturing its posterior portion, it is seen that each of the anterior branches of the canal communicates respectively with the last gland of each chain, and, further, that each of these glands is in direct relation with that immediately above it by a fine network of lymphatic capillaries.

Histological examination of these glands shows that they are lymphatic organs. One difference, however, exists between their structure and that of mammalian lymphatic glands, viz., the medullary substance is very reduced, while the cortical substance occupies almost the whole of the organ. From this it results that the lymphatic gland of birds is very rich in follicles; and, in each of these follicles, only mononuclear cells exist, to the exclusion of all other lymphatic cells.

Examination of the Abdominal Organs (Liver and Spleen).—The examination of the abdominal organs should be executed in a fashion which will not too greatly diminish the bird's market value if found free from tuberculosis. The authors recommend the following procedure. The bird is placed upon the right side, and the left posterior limb is drawn forwards with the left hand until the femur becomes parallel with the spinal axis. The tibia then forms an angle of about 120° with the femur. The incision to expose the viscera is made just below and parallel to the thigh, starting exactly at the femoro-tibial angle and following the inferior edge of the semitendinosus muscle for about 1.5 in. By separating the lips of the wound the superior edge of the left lobe of the liver and the proventriculus are seen; and, by repelling these slightly downwards and towards the left the spleen is brought clearly to view.

Lesions.—Lymphatic Glands.—In cases of tuberculosis, the glands of the cervical chain, which normally are very slightly apparent, mobile, and fragile in consistence, become more salient, less mobile, and more resistant. They are then easily perceived through the skin in the form of yellowish-white rounded grains, more or less voluminous, and very hard to the touch. When the skin is incised over one of these affected glands, the gland immediately protrudes, and is so hard that the knife cuts it with difficulty. Upon median section, in cases of total degeneration, the tissue is entirely transformed into a caseous solidified mass with thin veins of a yellowish and less consistent material running through it; the whole is enclosed by a thickened capsule. The authors have never found the least trace of calcification. In less advanced cases—at the commencement of the invasion of the gland—soft, yellowish, more or less voluminous tubercles, which are nearly always situated at one of the poles of the gland, are observed. The authors give a histological account of these lesions of the glands, and also of those of the thyroid body and the liver.

Thyroid Body.—The authors have twice found the thyroid partially degenerated, and presenting macroscopic characters identical with those of the tuberculous lymphatic gland.

Liver.—The liver is always invaded in the case of tuberculosis, and its lesions are very variable in their aspect. Sometimes one sees a regular "seed-plot" of small whitish granulations, some almost translucent, clearly defined upon the dark-red ground of the liver. Sometimes, on the contrary, one sees large irregular yellowish-white nodules, which project from the organ and deform it completely. The same diversity of aspect is seen upon section. The organ may be completely strewn with fine granulations at different stages, or it may be traversed by large fibrous bands which are softened in places and enclose large nodular masses between them. In one case of tuberculosis of the turkey, the liver was invaded by irregular bosselated tumours the size of a large walnut, most of which were softened at the centre.

Spleen.—The spleen also is always invaded, and presents the same diversity of lesions as the liver. It may, however, attain enormous dimensions. In one turkey which only showed discrete hepatic lesions, the considerably hypertrophied spleen attained the weight of 610 grammes (nearly 1 1-3rd lb).

Digestive Tract.—Lesions of the digestive apparatus are less frequent. The authors have found them in the proventriculus, the small intestine, the cæca, and the mesenteric glands. Generally they consist of ulcerations of the mucous membrane and an invasion of its different tunics by tuberculous nodules, which project externally, or partially obstruct the lumen of the intestine. The mesenteric glands are very developed, especially in the duodenal loop, where they form a voluminous mass which sometimes unites the two portions of this loop. The nodules of the intestine and the mesenteric glands are always caseous and very rich in bacilli.

Lungs.—When the lesions extend to the lungs they generally form small translucent tubercles, sometimes small caseous conglomerations.

Kidneys.—Sometimes a few caseous lesions, which are always discrete and present no remarkable characters, are found in the kidneys.

Ovary.—The ovary is rarely affected. The few lesions which the authors have observed have consisted of fine caseous nodules situated in the inter-ovular stroma.

Articulations.—Articular lesions are much more common. They are manifested by a variable deformation of the articular region. The osseous prominences diminish or disappear, and the surrounding muscles are pushed back by the articular exudate resulting from chronic inflammation of the synovial membrane. The synovia becomes very abundant, gradually becomes turbid, thickens, and is transformed into a caseous lump free in the cavity of the joint. The internal aspect of the slightly thickened synovial membrane is shagreened and granulating; the epiphyseal cartilages are not altered. The bacilli are always very numerous in the articular exudate and in the granulations of the synovial membrane.

Subcutaneous Lesions.—Twice in the fowl and once in the turkey the authors have found nodular lesions situated in the subcutaneous tissue. The nodules had the size of a large nut, sometimes of a walnut, and were very hard and not adherent to the skin. These masses were constituted by a very consistent caseous lump, in which only a few granular bacilli were found. Situated by preference upon the inferior limbs the nodules seem disposed chaplet-wise; and the authors suggest that they may be isolated lymphatic granulations.

Distribution of Lesions.—The authors give the following figures to show the distribution of lesions in the different organs and regions. Liver and spleen, 766 cases; cervical glands, 164 cases; thyroid, 2 cases; lungs, 23; kidneys, 12; ovary, 3; digestive apparatus, 17; left femoro tibio-patellar joint, 62; right femoro tibio-patellar joint, 3; left scapulo-humeral joint, 10; and right scapulo-humeral joint, 4.

The bacilli are very abundant in all these lesions, and are easily discovered by a simple microscopic examination after staining by Ziehl's method. They are especially numerous in those portions of caseated areas which are undergoing softening.

In the joints, on the other hand, they are especially found in scrapings from the internal aspect of the synovial membrane.

Cultures of the avian bacilli are easily obtained by direct sowing of virulent products upon different media. The glandular and articular lesions are the best for the latter purpose, as the bacilli are generally found there in absolutely pure culture.—(*L'Hygiène de la Viande et du Lait.*)

W. R. C.

RABIES IN A DOG AFTER ANTIRABIC INOCULATION.—RECOVERY. By Prof. M. A. MALCHEV, The Veterinary Institute, Charkov.

In November, 1910, there arrived at the Clinic for small animals attached to the Veterinary Insti-

tute, Charkov, a dog with evident symptoms of rabies. It died in due course, observation during life, control inoculation of its brain, and the discovery of Negri bodies all confirmed the diagnosis.

Another dog belonging to the same owner was isolated and at once inoculated with anti-rabic virus in the Pasteur Institute of the Charkov Medical Association. The inoculations were completed on the 27th November, and on the same day the owner noticed a strangeness about the dog: it appeared excitable, weary, and it vomited. It was removed from home to the clinic, and kept under observation constantly.

On the 29th Nov. careful examination revealed considerable changes in the region of the larynx and pharynx. The eyes were dull and unresponsive. The next day there was a slight drop of the lower jaw, desire to bite at the straw bedding, and difficulty in barking, the eyes became sunken and there was entire loss of consciousness.

On 1st Dec. all the symptoms were more marked; the jaw pendulous, the mouth half open, inability to eat.

2nd Dec. Loss of power and tottering of the legs.

3rd Dec. Complete paralysis of the hind legs, and convulsive contractions of the muscles of the neck.

4th Dec. Loss of power in the front legs, the dog entirely unable to rise. During this day the paralysis of the jaw disappeared, and the dog was able to swallow liquid nourishment. The eyes were more responsive. Defaecation had been suspended, but as the dog lay quiet in the cage an enema was easily administered by means of a long wooden nozzle. This resulted in the passage of a quantity of hard faeces.

5th Dec. Complete paralysis of the legs, insensibility to pricks on the tail or feet. It easily drank liquid nourishment without assistance. The enema was repeated.

7th Dec. Complete paralysis of the hind quarters but slight ability to move the front legs; the dog could not get up. The dog was quiet, barked loudly occasionally, and swallowed easily. Enema repeated.

8th and 9th. The same symptoms.

11th and 12th Dec. Paralysis of the legs beginning to disappear, the dog raised itself on its fore legs and slightly moved its hind quarters. Appetite good, drinks freely. Lies quiet and does not cry as formerly. Enema.

13th and 14th. Paralysis plainly disappearing, natural movement of the bowels.

15th and 16th. Can stand a little on the fore legs but swaying of the hind quarters marked; appetite good, natural defaecation.

17th and 18th. Dog able to stand without swaying and to walk freely, no paralysis. Therefore after three weeks all paralytic symptoms had disappeared, and the animal seemed to have quite recovered from rabies.

23rd. Dog discharged from clinic.

In this case the following point is not clear, viz.: What influence had the rabies on the antirabic inoculation made concurrently?

If we suppose that the dog had become infected under the same conditions as the first dog, or was infected by it, then we must conclude that the antirabic inoculation had a good effect, and was a curative treatment.

If we are to believe the owner, who firmly denies any possibility of infection of the dog which recovered by the first, then we must conclude that the symptoms above described were caused by the antirabic treatment, and that recovery was automatic.

[From the *Russian Social Veterinary Record*. Trans. V.S. N. Foss, Ufa, Russia, from whose Esperanto trans. F.E.P.]

Royal College of Veterinary Surgeons.

EXAMINATIONS IN SCOTLAND.

At a meeting of the Board of Examiners held in Edinburgh and Glasgow on May 24th for the Written, and on May 28th and 29th for the Oral and Practical Examination, the following gentlemen passed their Final Examination:—

EDINBURGH COLLEGE.

Mr. T. A. McClintock	Mr. J. McAfee
W. Kearney	W. W. Peggie
S. Little	

LIVERPOOL COLLEGE.

Mr. A. W. Allen.

GLASGOW COLLEGE.

Mr. W. H. Macfarlane	Mr. D. Keir
J. L. Taylor	T. M. Menzies
A. S. Ferguson	

The following passed their Third Examination:

EDINBURGH COLLEGE.

Mr. H. E. Jackson	Mr. R. S. Little
G. Atkinson	J. B. Russell
J. Conner	

LONDON COLLEGE.

Mr. K. H. Soutar.

GLASGOW COLLEGE.

Mr. D. Macleod	Mr. J. Dawson
T. Taylor	

The following passed their Second Examination:

EDINBURGH COLLEGE.

Mr. F. Christopher	Mr. D. Marshall
J. D. Tremlett	T. M. Mitchell *
N. Brear	J. J. Plunkett
T. Dalling †	R. Simpson
D. M. Ireland	J. E. Syme
G. C. Lancaster	B. van der Vijver
J. B. Mackie *	

GLASGOW COLLEGE.

Mr. T. M. Timoney	E. E. MacLachlan *
W. Watt	

The following passed their First Examination:

EDINBURGH COLLEGE.

Mr. A. R. C. Bowie	Mr. W. Hay *
B. Philp	C. K. Lomas *
R. Dalling	J. McAllan
J. Edgar *	R. K. Porteous
W. Harley *	J. G. Ross *

LONDON COLLEGE.

Mr. F. J. Andrews *

GLASGOW COLLEGE.

Mr. A. Campbell	Mr. W. Macgregor
J. Robertson	N. A. MacEwan

Marked thus † passed with First Class Honours.

" * " Second "

FRED BULLOCK, Registrar.

THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY.

The annual meeting took place at the Grand Hotel, Manchester, on Thursday, March 21st, at 3 p.m. The President, W. A. Taylor, Esq., in the chair, and Messrs. Woods, Faulkner, Carter, Stent, McKinna, A. Lawson, T. Hopkin, Wolstenholme, Garnett, and Locke (hon. secretary). Apologies were received from Messrs. Hobday, Young, Mason, Shipley, Lindsay and Clarkson.

The PRESIDENT, in a short address, said he would not occupy much of their time, as there were the statements of the Treasurer and Secretary to be presented. As he had on previous occasions said that the Society was one rather of deeds than words, he did not propose to make lengthy remarks. He was glad of the opportunity to vindicate the action of the Council, as complaints had been made that the Society was not doing its best in dispensing benevolence, and was neglecting to advertise itself sufficiently. With regard to the first insinuation he must point out that by the constitution of the Association and its rules the amount of funds at the disposal of the Council was limited, therefore benefactions on a large scale could not be made. Personally he was unaware of a deserving case having ever been denied assistance on proper application.

As to the hint that the Society was not sufficiently advertised, he asked what more could be done? Advertisements appeared, at regular intervals in the veterinary periodicals and the secretaries of local societies were supplied with literature from time to time. If members of the profession would not trouble to read them or avail themselves of the advantages of membership, surely it was no fault of the Association. If there was any laxity it rested with those members of the profession who by their amazing apathy have neglected to become members of the Association. Increase in the number of members meant increased funds, and increased funds would enable us to make larger grants.

He thanked those present for their attendance, which doubtless would have been greater had not the coal strike made railway travelling difficult, and in some cases impossible.

The SECRETARY reported that during the year there had been four Council meetings, and although we had not had a busy year the Society still continued to be of great service to those requiring its assistance.

There had been changes in the Trusteeship, due to the resignation of Messrs. Hopkin and Reynolds, and their position had been taken by Messrs. Sumner and Stent. Mr. Faulkner had been appointed a Life

Governor to represent the Lancashire V.M.A. in the place of the late Mr. S. Locke.

During the year two defence cases were undertaken and won by the Society, and there was at present five cases pending.

The Benevolent branch had eleven names on the books, all receiving various allowances.

The membership remained about the same (260) and it was a matter of amazement why many more did not avail themselves of the great advantage offered.

The HON. TREASURER submitted the balance sheet which, on the proposal of Mr. Lawson, seconded by Mr. McKinna, was received and adopted.

The SECRETARY having read the attendance of members of Council, the following were elected as officers for the ensuing year:

President.—Mr. W. A. Taylor, F.R.C.V.S., Manchester.

Vice-President.—Mr. Wm. Woods, F.R.C.V.S., Wigan.

Hon. Treasurer.—Mr. J. B. Wolstenholme, F.R.C.V.S., Manchester.

Hon. Secretary.—Mr. G. H. Locke, M.R.C.V.S., Manchester.

Council.—Messrs. A. L. Butters, London; J. Clarkson, Garforth, nr. Leeds; E. Faulkner, Manchester; F. W. Garnett, Windermere; Tedbar Hopkin, Manchester; A. Lawson, Manchester; A. W. Mason, Leeds; J. McKinna, Huddersfield; W. Shipley, Yarmouth; E. H. Stent, Manchester; Hy. Sumner, Liverpool; and R. C. Trigger, Newcastle, Staffs.

Auditors.—Messrs. Litton, Pownall and Co., Mr. J. H. Wright, M.R.C.V.S.

Mr. STENT proposed a vote of thanks to the officials for their services during the past year, and Mr. Hopkin seconded. Carried unanimously.

A vote of thanks to the President for conducting the meeting terminated the proceedings.

G. H. LOCKE, Hon. Sec.

VICTORIA VETERINARY BENEVOLENT FUND.

President.—W. Freeman Barrett, M.R.C.V.S.

Vice-Presidents.—P. J. Simpson, F.R.C.V.S., W. Burt, Junr., F.R.C.V.S., H. A. Woodruff, M.R.C.V.S., S. H. Slocock, F.R.C.V.S.

Bankers.—Messrs. Barclay and Co., Ltd., (Great Yarmouth Branch).

Hon. Sec. and Treas.—W. Shipley, F.R.C.V.S., 28 Southtown, Great Yarmouth.

The Council beg to present their report for the year ended 31st March, 1912.

The membership of the Society on the 31st March, 1912, totalled 191, being a net increase of 81 for the year. The subscriptions received, including arrears, amount to £183 17s. 6d., an increase for the year of £70 15s. 6d.

The relief granted amounted to £153 8s., being an increase of £32 over the previous year. Owing principally to the additional membership, increased grants were made in some cases, but it is regrettable that there are still deserving cases which, owing to lack of income, it is impossible to relieve. The amount of income at present available is only £103 15s. 9d., which is insufficient to meet the relief for the next nine months, when the annual subscriptions are due. Every member is, therefore, earnestly appealed to to do what he can to obtain new subscribers, as it is only by this means that the objects of the Society can be obtained.

The Council regrets to report the death of the late President, Mr. Edward Coleman, who always took a keen interest in the welfare of the Society. By his Will, he left the Society a legacy of £1,000 subject to duty, for which the Council is most grateful.

ALFRED H. POWNALL, F.C.A.
J. H. WRIGHT, M.R.C.V.S.

The eight members of the Council who retire by rotation are:—Messrs. F. W. Garnett, F. L. Gooch, T. G. Heatley, F. Hobday, H. A. MacCormack, Sir John M'Fadyean, and W. J. Mulvey, and they have been nominated for re-election. A vacancy occurs on the Council through the retirement of Prof. J. Macqueen, who is unable to attend the meetings. Prof. A. E. Mettam has been duly nominated.

The trustees of the Society are Messrs. W. Shipley, S. Stockman; a third trustee is to be elected in the place of the late Mr. E. Coleman, and the Council recommend Mr. F. W. Garnett, M.R.C.V.S.

The auditors are Messrs. Joseph Woodger, M.R.C.V.S., and Albert E. Lark, chartered accountant. The Council recommend them for re-election.

It is proposed to make the financial year end on the 31st December, instead of March, so as to coincide with the period for which the subscriptions are paid.

The Council fully recognise there is a great work to do and that the members of the profession cannot be aware of the distress that occurs amongst old members and also amongst the widows and children of veterinary surgeons who have died before they have been able to make proper provision for their dependents. It must be apparent that no grant less than 10/- per week can meet the pressing needs of a widow, even if without little children. It is to be hoped in future no grant should be less than that sum. This would entail at present an expenditure on grants alone of £260 per annum, a sum quite impossible with our present income.

In selecting Dublin as the place of our annual general meeting, the Council feel assured that it would be to the advantage of the Fund and to the members of the profession in that country to bring to their notice the good work it is doing. Members of the profession in Ireland are, of course, unaware of our work, or they would not allow us to make grants to applicants there without supporting the Fund. A subscription of 10/6 a year entitles to membership, but when one recalls the facts that we are spending now over £50 a year in Ireland, it will indicate we should have many subscribers there.

The Council feel that, if every member of the fund would endeavour to influence at least one other member of the profession, and point out the good work that is being done, our list should be doubled. It is also desired that subscribers take more individual interest, not only in getting fresh support, but also in investigating cases of distress and reporting to the Council. The Council are aware that many sad cases occur which never come to their notice. The Secretary will be pleased to give any further information.

W. FREEMAN BARRETT, President.

WM. SHIPLEY, Hon. Sec. and Treas.

28, Southtown, Great Yarmouth, 23rd May, 1912.

INCOME AND EXPENDITURE for the year ended March 31st, 1912.

		£	s.	d.
By Subscriptions	...	183	17	6
Interest and Dividends	...	60	4	4
Income tax returned	...	8	15	1
		£252	16	11
To Relief granted	...	153	8	0
London Orphan Asylum Grant	...	1	1	0
Printing, postages, advertising, and incidental expenses	...	26	4	4
Surplus for the year	...	72	3	7
		£252	16	11

BALANCE SHEET, MARCH 31, 1912.

By		£	s.	d.
Investments at cost:—				
£2052 12s. 9d. 2½ per cent. Consolidated Stock	...	1895	14	7
£550 3 per cent. Norwich Corporation Redeemable Stock	...	532	3	6
Cash on Deposit Account	...	900	0	0
Cash on Current Account	...	160	12	10
		£3488	10	11
To Capital Account, March 31, 1911		2433	3	8
Add—Legacy (Mr. E. Coleman)		900	0	0
Donations	...	51	1	0
		3384	4	8
Income and Expenditure Account—				
March 31st, 1911	31 12 2			
Surplus, March 31, '12	72 3 7			
		103	15	9
Subscription paid in advance		10	6	
		£3488	10	11

We have examined the above Accounts with the books and vouchers and certify the same to be correct. We have ascertained that the securities are registered in the names of the Trustees. The Bankers have certified the correctness of the balance on deposit and current accounts.

JOSEPH WOODGER, M.R.C.V.S.

ALBERT E. LARK, F.C.A.

May 23rd, 1912.

} Hon. Auditors.

THE ROYAL (DICK) VETERINARY COLLEGE.

The medals and prizes gained during the past session were presented on Monday, 27th ult., by Mr. C. E. Price, M.P. Mr. A. I. M'Callum, J.P., M.R.C.V.S., presided, and among others on the platform were Sir Robert P. Wright, Chairman of the Board of Agriculture; Councillors Geddes, M'Arthy, Macpherson, and White; Mr. Harry Rawson, Mr. J. Rutherford Hill, and Principal Bradley.

EDINBURGH UNIVERSITY NEW ORDINANCE.

The CHAIRMAN said the outstanding feature of the past Session was that the Ordinance of the University of Edinburgh was passed by the Privy Council without opposition, had received the sanction of the King, and was passed by both Houses of Parliament. (Applause.) He need not tell them that this gave them a new position. They were now affiliated to the University of Edinburgh, and the men who chose to go in for the examination would occupy a position second to none among scientific men. (Applause.) Hitherto the positions that should be occupied in many cases by veterinary surgeons had been occupied by medical men, and the reason given for that was that they were not equipped. Besides carrying through this Ordinance he might mention that the Principal of the College had now been made a University lecturer. Another change that had taken place during the year was that instead of the students having to take a long session of eight months, which was very wearing out as it came near the end, there would be a winter and summer session for the students. He had to congratulate the Principal, the Professors, and the students on a very successful session. With few exceptions, the work had been quite encouraging. In introducing Mr. Price, he might say he was a warm friend of the Royal (Dick) College. He

hoped that his enthusiasm would remain with them when they passed from the old buildings in Clyde Street to the new buildings at Summerhall. The plans had been approved by the Board for the new buildings, and the architect was now putting final touches on, and they hoped before the opening of the Session 1912-13 a beginning would be made with the new buildings.

Mr. PRICE, who was received with applause, alluding to the fact that the College now was affiliated to the University, said they could all of them have an opportunity of taking a higher rank in their profession than ever was the lot of those who preceded them. He felt it was a national disgrace that Scotland could not confer a single veterinary degree, but now with these two degrees—the degree of Bachelor and the degree of Doctor of Veterinary Science—that College stood in the very front rank. There was nothing in the world better than the degrees they were now able to obtain at that College. Of course they must not forget that the inception of this idea was entirely due to their friend Mr. McCallum. (Applause.) He had been working at it to his knowledge for over fifteen years, and though many of the days were dark days, still he never lost faith. Therefore it was a great thing for a man to say, that, having an ideal long before he mentioned it to the Corporation, making the first suggestion when he endowed the Chair of Pathology, he had been able to accomplish this ideal; and he sincerely trusted that this would be an encouragement to the students to lay out for themselves an ideal, and that they would accomplish it as successfully as Mr. McCallum had done. But apart from the matter of getting these two new degrees, Mr. McCallum, as they knew, had taken a great interest in the College, and had contributed very handsomely to the College which was about to be built. (Applause.)

THE BUILDING FUND.

He had been doing all he could to get subscriptions towards the building fund. He thought the men who would be most interested in raising the standard of the veterinary profession and getting a new College erected would be men who were prize-takers at agricultural shows, or, at all events, men who went in for the breeding of prize stock. He took the list of exhibitors at the agricultural show in Edinburgh, and sent a letter himself to each of those exhibitors asking them if they would contribute towards that College. He pointed out to them that they were getting these two new degrees, and that the effect of this would be that it would materially reduce the death-rate among animals, and that they, above all people in the world, would benefit. He regretted to say that so far he had not received a single response in the way of a subscription. They still wanted, he thought, about £4,000 to claim the full amount of £25,000 which they had been able to secure from the Government; and therefore, if these stock-breeders would help them in this, they would be serving themselves as well as the College. Mr. McCallum had referred to the position of the profession so far as the examination of milk and meat was concerned. They were the men who should be able to test everything affecting an animal. It was to them they should look to preserve for them in their cities meat and milk free from tuberculosis.

The prizes were presented by Mr. Price, as follows:—

Junior Anatomy.—Silver medal, J. G. Ross; bronze medal, J. McAllan, M.A.

Biology.—Silver medal, J. McAllan, M.A.; bronze medal, R. Porteous.

Chemistry.—Silver medal, J. McAllan, M.A.; bronze medal, J. G. Ross.

Practical Chemistry.—Bronze medal, J. McAllan, M.A.

Senior Anatomy: Physiology.—Silver medals, T. Dal-ling; bronze medals, R. Simpson.

Practical Anatomy.—Silver medal, T. M. Mitchell.

Histology.—Bronze medal, T. M. Mitchell.

Stable Management.—Silver medal, J. E. Syme; bronze medal, R. Simpson.

Pathology.—Silver medal, R. S. Little; bronze medal, G. Atkinson.

Practical Pathology.—Silver medal, D. Starkey.

Materia Medica.—Silver medal, R. S. Little; bronze medal, G. Atkinson.

Hygiene.—Silver medal, G. Atkinson; bronze medal, R. S. Little.

Medicine: Surgery.—Silver medals, S. Littler; bronze medals, Wm. Kearney.

Obstetrics.—Silver medal, W. W. Pegg; bronze medal, S. Littler.

Clinique.—Silver medal, J. McAfee; bronze medal, S. Littler.

Macfarlane Medal: £20 Prize.—S. Littler.

Silver Medal for Best Essay.—D. R. Williamson.

Silver Medal for the Best Communication.—F. J. L. Croudace.

INCREASE OF PRACTICAL TEACHING.

Prof. BRADLEY, in moving a vote of thanks to Mr. Price, said Mr. Price had always been in very many ways a friend of that institution. He was quite convinced that the whole of the staff of the College had reason to say that the work of the College was now better than ever it was. The teaching was—if he might so express it—much more extensive than it used to be. All the teachers of the College had increased their practical teaching, and an increase of practical teaching was an extremely desirable thing. Furthermore, the staff had been alive to the fact that they were not in the future to prepare men for general practice pure and simple, but that it was necessary to keep a firm hold on the public health side of their teaching. During the past session the teaching of the public health side of their work had increased, and they proposed to extend it a little more. (Applause.) He might say to Mr. Price that the agricultural community was not so absolutely blind to its own interests as perhaps his words might lead one to suppose. It was a considerable indication of the way the agricultural mind was tending when he told them that within the last few weeks no fewer than three agricultural societies—two in Scotland and one in England—had applied to that institution for veterinary surgeons. (Applause.) But further interest resided in the fact that they could not supply them, because, though many were in the habit of saying that the veterinary profession was overstocked, yet it seemed that the veterinary profession was becoming understocked, and if it was understocked at the present moment what was going to happen as soon as municipal bodies and the county authorities had really finished rubbing their eyes? (Applause.)

Mr. PRICE, in acknowledging, said there was no doubt a tremendous future before the veterinary profession, and when they had County Councils and large burghs employing veterinary surgeons they would see there was a great opening for those entering the veterinary profession. The raising of the standard of stock was bound to make the profession a much more lucrative one than it had been in the past.

On the motion of Mr. J. Rutherford Hill, representing the Pharmaceutical Society of Great Britain, a vote of thanks was given to the donors of prizes, and, on the motion of Prof. Giffon, the Chairman was thanked for presiding.—*The Scotsman*.

GLASGOW VETERINARY COLLEGE.

The following medals granted by the Highland and Agricultural Society, the late Prof. Allan Thompson, and Principal McCall, and certificates of merit were awarded in the different branches as follows:

Chemistry.—Medallist and first class certificate, Archibald Campbell; first class certificates, John Robertson and W. A. Macgregor; second class certificates, N. A. MacEwan and John Sturrock.

Biology.—Medallist and first class certificate, N. MacEwan; first class certificate, Archibald Campbell; second class certificates, J. B. Sturrock and Charles M'Pherson.

Junior Anatomy.—Medallist and first class certificate, Archibald Campbell; first class certificate, N. MacEwan; second class certificates, J. B. Sturrock and W. A. Macgregor.

Senior Anatomy.—Medallist and first class certificate, Wm. Watt; first class certificates, Eric E. MacLachlan and T. M. Timoney.

Physiology and Histology.—Medallist and first class certificate, Eric E. MacLachlan; second class certificates, T. M. Timoney and Wm. Watt.

Parasitology.—Medallist and first class certificate, D. Keir; first class certificate, J. L. Taylor; second class certificates, T. Menzies and A. S. Ferguson.

Anatomy.—Allan Thomson gold medal for the best professional examination, Eric E. MacLachlan.

Stable Management.—Medallist, Eric E. MacLachlan.

Materia Medica and Therapeutics.—Medallist and first class certificate, E. F. Angler; first class certificates, Tom T. Taylor, and James M. Dawson; second class certificate, Q. A. Stewart.

Pathology and Bacteriology.—Medallist and first class certificate, E. F. Angler; first class certificate, T. T. Taylor; second class certificates, James M. Dawson and Q. A. Stewart.

Hygiene and Dietetics.—Medallist and first class certificate, Tom T. Taylor; first class certificate, E. F. Angler; second class certificate, James M. Dawson.

Veterinary Surgery, Obstetrics, and Shoeing (written examination).—Medallist and first class certificate, David Kerr; first class certificate, J. L. Taylor; second class certificates, Wm. Macfarlane and Thomass Menzies.

Veterinary Medicine (written examination).—Medallist and first class certificate, D. Keir; first class certificate, A. S. Ferguson; second class certificates, J. L. Taylor and R. M. Lawson.

Practical examination of horses as to age, soundness, operations, etc., David Keir.

Practical examination of cattle and sheep as to age, soundness, operations, etc., D. Kerr.

COAL MINES ACT, 1911.

APPOINTMENT OF H.M. INSPECTORS OF HORSES.

1. Section 109 of the Coal Mines Act provides that the Secretary of State shall appoint fit persons to be special Inspectors for the purpose of examining into the care and treatment of the horses and other animals used in mines, and of enforcing the provisions of the Act relating to horses and other animals, particularly the provisions of the Third Schedule to the Act which are printed on page 3 of this Memorandum.

2. Six Inspectors of Horses will be appointed, one for each of the Divisions into which the United Kingdom will ultimately be divided for the purpose of inspection under the Coal Mines Act.

3. The salary of the Inspectors of Horses is £125, rising by £5 a year to £175.

4. The Inspectors of Horses will be appointed by the Home Secretary on the advice of the Board for Mining Examinations. Before appointment they will have to satisfy the Civil Service Commissioners in a qualifying examination that they have a sufficient general education. The subjects of the examination are stated below.

5. Candidates must be thoroughly experienced in the care and treatment of horses and other animals in mines, and must have had practical acquaintance with the conditions under which work is carried on underground.

6. The prescribed age for candidates for these Inspectorships at the time of examination is between 30 and 40 years. No exception can be made to this rule.

7. The subjects of the qualifying examination are:—

- (i) Spelling and handwriting.
- (ii) English composition (ability to write a simple and intelligible report to a superior officer).
- (iii) Arithmetic (first four rules, simple and compound, vulgar and decimal fractions).

8. The fee for the examination is 10s.

9. A candidate is further required, before he can be appointed, to satisfy the Civil Service Commissioners as to his good character, and that his age is within the prescribed limits, and that he is physically fit for the work.

10. An Inspector upon first appointment is subject to two years' probation. He must give his whole time to the official duties assigned to him, and he may be called on to reside in any part of the United Kingdom. Travelling expenses are paid.

11. An Inspector's tenure of office, increments of salary, and pension, are dependent on good conduct and efficient service. Inspectors may be called on to retire at 60 years of age, and retire in any case at 65.

12. Applications for appointment should be made on the enclosed form, which must be filled up carefully in the applicant's own handwriting, and should be accompanied by one or two testimonials based upon personal knowledge of the candidate, indicating the nature of his experience, and giving information as to his character and fitness for the appointment. The form when filled in should be returned direct to the Private Secretary, Home Office. All applications will be considered impartially on their merits. No recommendations or testimonials are considered unless based on personal knowledge of the candidate's character and attainments. *Candidates are therefore particularly advised in their own interest not to seek political or social influence, which will prejudice rather than assist the candidature.*

Home Office, May, 1912.

Prosecution by the R.C.V.S.

At Droxford Petty Sessions, on Thursday, May 23, before Mr. W. H. Myers (Chairman) and other Magistrates.

Harry W. White, of Wickham, appeared to an information laid on behalf of the Royal College of Veterinary Surgeons "for that he, not being on the Register of Veterinary Surgeons, and not holding at the time of the passing of the Veterinary Surgeons Act, 1881, the veterinary certificate of the Highland and Agricultural Society of Scotland, did, on the 9th March last, at Swanmore House Farm, Bishop's Waltham, unlawfully use and take an addition and description, to wit, a duly qualified veterinary surgeon contrary to Section 17 of the said Act."

Defendant appeared, and admitted unintentionally signing a certificate relative to the condition of a certain animal.

A fine of £1 and £1 7s. 6d. costs was imposed.—Mr. Cromwell Prior prosecuted.—Mr. Myers did not adjudicate in this case.—*The Evening News*, Portsmouth.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period		Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
		Outbreaks		Animals		Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Out-breaks.	Slaughtered.
		Con-firm'd	Re-ported	Con-firm'd	Re-ported									
Gr. BRITAIN. Week ended June 1		5		5				5	7	41	84	1	80	868
Corresponding week in	1911	11		12				3	7			3	59	759
	1910		42		44			6	16			2	48	540
	1909		26		39			8	13			6	31	555
Total for 22 weeks, 1912		454		507				74	156	1958	4391	159	1487	18731
Corresponding period in	1911	422		515	1	18	91	248				300	1075	11556
	1910		704		857			157	423			312	569	5216
	1909		630		838			262	1027			448	738	6987

Board of Agriculture and Fisheries, June 4, 1912

† Counties affected, animals attacked: London 1, Stafford 1, Surrey 1, York, West Riding 1.

Royal College of Veterinary Surgeons.

ANNUAL MEETING.

The sixty-ninth annual general meeting was held in Dublin for the first time on Wednesday, 15th of June. The President, Prof. A. E. Mettam, B.Sc., M.R.C.V.S., presided, and the members present were:—Messrs. George A. Banham, J. H. Carter, George A. Banham, J. H. Carter, Sydney Slocock, W. Shipley, H. Sumner, Frank W. Garnett, George F. Banham, W. Cargill Patrick, Richard Roberts, J. Moore, J. M'Kenny, P. D. Ready, J. J. O'Connor, J. F. Craig, W. Ashe Young, F. Collett Ryan, F. A. Heney, A. J. Moffett, G. N. S. Jarratt, J. V. Daly (Royal Irish Constabulary), Jas. Dawson, J. N. Norris, S. T. Groome, P. J. Howard, D. S. Prentice, F. Kerr, J. J. G. Keppel, W. T. M. Browne, and J. J. Kelly. Mr. G. Thatcher, Solicitor; and Mr. Fred Bullock, Secretary.

The notice convening the meeting was read by the Secretary, Mr. Fred Bullock.

The CHAIRMAN, in opening the proceedings, said: In the first place permit me to welcome all those English gentlemen to the sixty-ninth annual meeting of the Royal College of Veterinary Surgeons, held in Dublin for the first time.

The SECRETARY read the minutes of the previous meeting, which were adopted unanimously.

Letters of apology for non-attendance were received from Sir John M'Fadyean, W. J. Mulvey, R. C. Trigger, S. Villar.

The SECRETARY announced the ballot of members who were elected to the Council in June, 1912, as follows: Sir J. M'Fadyean, 1245 votes; Messrs. R. C. Trigger, 1087; F. W. Garnett, 1072; Major-General H. Thomson, 934; J. T. Share-Jones, 928; J. Clarkson, 912; Major-General R. Pringle, 837; T. Salusbury Price, 761; and W. Burt, 759.

The CHAIRMAN: You have heard the declaration of the poll read by the Secretary: it is therefore my duty to declare them elected for four years of office. (App.) As is customary eight members retire annually, but owing to the decease of Professor Williams last year there was an additional vacancy on the Council. The practice in the past was to take a ballot in order to select

a person to fill the position for the remainder of the period in which Prof. Williams would have remained in office.

As the result of the ballot taken, Mr. T. Salusbury Price was elected in the room of the late Prof. Williams, to remain in office until next year.

Mr. RICHARD ROBERTS, Vice president, proposed a vote of thanks to the Scrutineers. He said it was a very arduous duty, and he was sure that they heartily deserved the vote of thanks.

Mr. F. W. GARNETT seconded the motion, which was passed.

Mr. SYDNEY H. SLOCOCK proposed the reception of the annual report and statement of accounts, which was seconded by Mr. McKenny, and unanimously passed.

The CHAIRMAN: The report is now open for discussion. I understand you have all received copies of the report. It was usual to discuss it taking it page by page. Pages 1 and 2 practically included revision of the bye-laws. They had been revised by Committee and passed by the Council. It was virtually only a matter of re-arrangement and codification, and not a question of alterations.

The Chairman was passing on to deal with the next page when Mr. M'Kenny suggested he was going through the report rather too quickly, as they had not time to read it.

The CHAIRMAN: The report has been in your hands some weeks which should have given you plenty of time for reading it. Proceeding, the Chairman said page 3 referred to Fellowship degrees, the results of the professional examinations for membership and the Walley Memorial Prize. It also referred to the Fitzwygram Competition, which is open to students of the Veterinary colleges, and the result was determined by the total marks of the students in the four professional examinations. Having referred to the Williams Memorial Prize, the Chairman said that the important feature of page 4 was the report of the Registration Committee. This was a very abbreviated report in comparison with the amount of work done by the Committee. (Hear, hear.) The Committee had to deal with all the complaints brought before the Council relating to the work of the profession, as well as with complaints dealing with outside persons coming in on the domain of the profession. It was essentially the penal committee of their profession. Dealing with the record of work of the Parliamentary committee he said that this report also did not fully indicate the duties covered by that committee, and

could not be taken as a criterion of the work accomplished.

The Chairman referred to a case concerning the use of armorial bearings. He said that a member was sued for using the arms of the College; the case was taken to a higher court and lost. As Mr. Thatcher (solicitor) reminded them, the case was fought against the London County Council, and contrary to the advice of their own Counsel.

Mr. HOWARD: With your permission I should like to refer to the work of the Registration Committee. Last year members of the Irish Veterinary Association sent the name of a student to that Committee to have his conduct considered, inasmuch as he had his name advertised as a veterinary surgeon. They had his name brought before the Committee in order that it might deal with the student in a fitting manner. I may say, however, we have been very disappointed with the Registration Committee for not having dealt with the student. The student managed to get some friend of his to say that he had not advertised himself as a veterinary surgeon, and the Committee, in the face of our representations, let him get off free. The student had done considerable mischief in the district, and the Irish practitioners are very annoyed at the action of the Committee.

Mr. McKENNY: It is most unsatisfactory, and I am of the opinion that the matter should be referred back again to the Committee. It is a case which could be proved up to the hilt. You have all the evidence, and you simply take one letter and dismiss all the other evidence before you. I believe it is a matter which should be taken up by this Council.

Mr. REAVY said that as a matter of fact he recollected seeing the man's photograph in a paper, and he had attended at hotels in two different towns. He (the speaker) had tried to get evidence, but was blocked by the police. If the matter came up again they could get evidence.

Mr. NORRIS: I was one of the members of the Council of our Society, and my impression is that we were unable to furnish the Registration Committee with sufficient evidence for them to proceed in the matter. I certainly do not consider the Registration Committee was to blame, as it could not work without evidence. An effort was to have been made by my own Association to get sufficient evidence, but I do not know whether it was done.

The CHAIRMAN: In reply to the discussion, I would say that the Registration Committee always goes fully into the evidence brought before it. The evidence in this case was insufficient, and as Mr. Norris has said, it was true further evidence was to have been laid before the Committee, but that was not forthcoming, and the Committee did not get any additional information.

Referring to the Parliamentary Committee the Chairman stated: I may say, for the information of the members present, the duty of the Parliamentary Committee consists of looking after the interests of the profession so far as they are concerned in Bills brought up in Parliament, as I have already said the work is very arduous and exacting, and is not by any means fully represented in the report.

You will see in the report the reference made to Clause 3 in the Coal Mines Bill in regard to the inspection of horses working underground. The Committee has influenced the Home office, which has promised that the Council will be consulted in the matter.

Another instance of the work of the Parliamentary Committee is the paragraph dealing with Patent Medicines and Secret Remedies. There is a Committee in the House of Commons to consider Patent Medicines and Secret Remedies, and your Council has instructed me to represent your profession and give evidence before that Committee.

Mr. McKENNY: It is an extraordinary thing, because anyone can learn what are the constituents of a patent medicine by paying eightpence. But it is not proposed to stop at patent medicines, but to go further and deal with secret remedies. Well, it is difficult to see where that would end; if such a law is passed it will not end there, but will affect every individual. At the present time there is a growing idea that medicines have a very limited effect on patients. That view is not only held with regard to our own profession, but also with regard to the medical profession, and I will say without the slightest hesitation that it shows a great weakness on our part if such is the case. I deny it entirely. The use of patent medicines is extending daily. (Hear, hear.) In regard to the study of medicine it is no use inflicting on students such a task if in practice it is to be useless. It would be useless if their medicines had no serious or tangible effect upon horses. Each druggist at the present moment, and a great many medical men as well, are employing wholesale "made-up" preparations, and I believe that is due to the fact that the old time habit of making up prescriptions is dying out, and I have not the slightest hesitation in saying that if an ailing horse were to present itself before us now—(Laughter)—there would be few among those who hold the opinion I allude to, that would be capable of writing a proper prescription for treatment of the animal's ailment. I trust that the evil which has been done will be undone. I have some secret preparations—(Laughter)—myself, and I have no intention of letting the whole profession or anybody else get them. (Renewed laughter.) I have had the pleasure and the privilege of serving five years in a laboratory, and I know what I am speaking about, and I know that drugs are not understood by a large number because they have not got the knowledge that I have. (Loud laughter.) The preparations that I have alluded to are most magnificent preparations from a scientific point of view. (Laughter.) [A Voice: Order, you are advertising.] Mr. McKENNY: I have not mentioned what they are. (Laughter.) Instead of doing away with it, we want veterinary surgeons to study it and to compete with druggists. I hope this will never be allowed to throw back this profession. (Hear, hear.)

The CHAIRMAN: The last paragraph on page 5 deals with the Veterinary Surgeons Act Amendment Bill, which is of immense importance to all of us. I am sorry to say that I have heard from Mr. Thatcher that the Bill has not yet been reached, and that we are still, as it were, marking time so far as the passing of the measure is concerned. We are "living in hopes, though we may die in despair." It is absolutely necessary in the interests of the profession that this Bill should be made law as early as possible. It seems to be rather an anomaly that the Imperial Parliament should find such difficulty in passing a Bill which may be termed a local or family Bill, inasmuch as it only affects members of the profession. The money which the College has, and was able to save in the year over and above its absolutely necessary expenses, is spent by the Registration Committee in the protection of the interests of the College, and our hands are cramped by the fact that we are unable to get sufficient money to conduct the College as it should be conducted. It is coming to a serious pass when we cannot get the Bill through. The last election of the Council was an emphatic declaration in favour of the Bill. I believe I can say that the profession, as a whole, regards the Bill favourably, and, in the last election, the opposition was completely defeated, and those in favour got in, headed by Sir John M'Fadyean as highest on the list, with the heaviest voting recorded in our history, except in 1896 when there was another very important matter to be decided. I therefore hope that influence will be brought to bear with a view to getting the Bill passed as soon as possible,

so as to enable the College to obtain the resources so essential to its thorough well-being. (Applause).

Mr. J. J. KELLY: I would like to inquire who has charge of the Bill in Parliament?

Mr. THATCHER replied that it was in charge of Sir Frederick Lowe, the Right Hon. W. Hayes Fisher and Captain Jessel.

Mr. KELLY: The reason I asked the question is that I believe there is a number of practitioners in Ireland who have a very considerable influence with the various members of Parliament in Ireland. By the exercise of their influence they may be able to carry more weight with the Government in getting the Bill through Parliament. I think as the Irish Party has very powerful influence at present, that with judicious handling of that power they may be able to press forward the Bill.

The CHAIRMAN: I am sure the members will be sorry to hear that it is found necessary to sell out £1,000 worth of Consols, so that instead of £7,000 invested in Consols we have now only £6,100. £2,000 have been sold out within the past two years. This again shows how necessary it is that we should have our Bill made law. (Hear hear).

On page 8 you will see that a special Sub-committee has been appointed to consider the Syllabuses of Examinations for the Membership Diploma. The present syllabus has been in existence for twelve years, and it is quite time to have it revised. The Committee has not yet reported in full.

On the same page it is shown that an application has been received from the University of Melbourne for the recognition of their Diploma of Bachelor of Veterinary Science. The University has been informed as to the condition on which such a diploma can be recognised.

Mr. McKENNY thought the Council should be very judicious in their reply.

The CHAIRMAN: I can assure Mr. McKenny that the reply, which has been sent will even satisfy his cautious mind.

The CHAIRMAN drew particular attention to the last paragraph of the report stating "The next edition of the Register of Veterinary Surgeons will be published early in 1913, and members are requested to communicate to the Registrar all necessary changes not later than 31st December next."

On the motion of Mr. J. H. CARTER (Burnley) seconded by Mr. W. C. PATRICK (Mullingar), the report was unanimously adopted.

Mr. ROBERTS, Vice-President, moved a vote of thanks to the Chairman. He said he was sure they were all delighted to see him in the position he now occupied. (Hear hear).

Mr. HOWARD, in seconding the motion, said they in Ireland were very proud that an Irishman (for so he believed he might call him) had been elected President, the most important position which the Council could confer on him.

Mr. McKENNY: There is a little matter I should like to mention—

The CHAIRMAN: If you don't mind, I think the business of the meeting is over. (Hear, hear).

Mr. McKENNY: There are a number of veterinary surgeons here, and I think—

The CHAIRMAN: I cannot allow you to open the meeting again. (Hear, hear).

The vote of thanks having been carried unanimously,

The CHAIRMAN, in reply thanked them cordially for the vote of thanks, and said that in his position as President of the Council it would be his duty to look after the interests of veterinary surgeons in Great Britain and Ireland, in the Colonies, and in foreign countries, for, indeed, members of their profession were all over the world now, and they had graduates of the College in all quarters of the earth. When, however, he fell back to

the position of a member of the Council he would consider it his duty to consider specifically the interests of the practitioners in Ireland, his adopted country. (Applause).

The meeting then concluded.

Foot-and-Mouth Disease.

The Report of the Departmental Committee has been published. The Committee was constituted as follows: The Right Hon. Sir Ailwyn Fellowes, K.C.V.O.; Sir C. D. Rose, M.P.; Sir Harry C. W. Verney, M.P.; Sir J. Bowen Bowen-Jones, Mr. Charles Bathurst, M.P.; Mr. William Field, M.P.; Mr. John Hinds, M.P.; Mr. G. R. Lane-Fox, M.P.; Mr. Richardson Carr, Major E. M. Dunne, Mr. E. E. Morrison, and Mr. E. M. Nunneley. Sir Ailwyn Fellowes was Chairman, and Mr. W. H. F. Landon acted as secretary, and all sign the report without any reservation or supplementary statement. The Committee exceeded the limits specified to the extent of including investigations concerning anthrax on the ground that infection in both cases may be carried through similar channels and be subject to the same preventive measures.

Evidence was heard from 32 witnesses, representing the veterinary profession, stockowners, and shipping firms. In addition to Sir John McFadyen and Mr. Stockman, Chief Veterinary Officer of the Board of Agriculture, and other prominent British veterinary authorities, Dr. Bang, Chief Veterinary Officer to the Minister of Agriculture in Denmark, and Dr. de Jong, who holds a similar appointment in Holland, gave evidence before the Committee. Among the agricultural witnesses were two of the farmers whose stock were affected by the recent outbreaks.—*The Times*.

London Cart Horse Parade Society.

The twenty-seventh parade was held in Regent's Park on Monday, May 27th. Although there were some misgivings as to the effect the carters' strike might have upon the function, there was in reality nothing to complain about on that score. Five hundred and ninety-one drivers, in charge of 696 horses, entered for competition, the numbers in the various sections being as follows:—Single horses (two wheels), 22; single horses (four wheels), 437; pairs, 74; teams of three, 23; teams of four, 5. This compares well with the 644 horses and 507 men who took part in last year's parade. The event was a splendid success. The great majority of the horses were in such first-rate condition that only one award—the red rosette—was possible, and blue and white rosettes were at a discount. Besides these there were special prizes given by the Shire Horse Society for the best horses, irrespective of breed, and by the Suffolk Horse Society, for the finest animals of the Suffolk breed. The whole turn-out, horse, van, harness, and general appearance—was taken into account in their award. A red rosette carried with it not only a substantial money prize, but a brass plate to attach to the harness, a certificate from the R.S.P.C.A. that the driver had treated his horse with especial care. Long service awards to the drivers were also made, and the veterans received a great ovation. Forty-five years with their respective firms were the records of John Spencer and William Hinton, forty-four years that of Dan Howe, and there were seventeen others who had served the same masters for periods ranging from forty years down to a quarter of a century.

On the same day the sixth annual parade of commercial motor vehicles took place in the neighbourhood of Grosvenor Road, when there were 275 entries, or 117 fewer than last year, when, too, in view of the Coronation, special inducements were offered. In point of merit, however, there was no falling away.—*Horse and Hand*.

Alleged Cruelty.—Contradictory Evidence.

Wm. Day, a market gardener, of Queen Hythe Farm, Jacobs Wells, was charged at the Borough Police Court, on Wednesday, with cruelty to a horse by working it when in an unfit state on May 28th.

P.C. Pinner deposed to seeing defendant with the horse attached to a cart in Chertsey Street on Tuesday morning. It was going very lame, and its hocks were very much swollen. When he charged defendant he replied: "I did not know it was lame and I was only leading it."

Inspector Bishop, of the R.S.P.C.A., said that the animal was in poor condition. The lameness was due to diseased hocks, and the animal was past work and only fit to be killed.

Mr. E. G. Robertson, veterinary surgeon, said it was cruelty to work the horse, which was suffering from bone spavin.

For the defence, Mr. W. R. Emery, veterinary surgeon, said he found no indication of heat or pain about the animal's hocks. It was only a little stiff in the joints, and in his opinion, was quite fit for work. There was no disease.

Alderman Baker: There are many horses in the same condition in the town which are working regularly?

Mr. Emery: Yes; scores of them.

The Mayor, after the magistrates had seen the animal, said they considered it a very bad case. He would be fined £1, and would have to pay the veterinary inspector's fee of 10/6. They ordered that the horse should be destroyed.

[Presumably this cutting is from a Guildford newspaper, since there is a Godalming advertisement on the back of it. The covering note is signed "A lover of animals, etc."]

We would call the sender's attention to the following notices, which have repeatedly appeared in our pages for years past:—

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of the writers, not necessarily for publication.

SCRAPS which cannot readily be authenticated either as to origin or date, frequently give unnecessary trouble. A convenient method is to send the page of the newspaper containing the marked paragraph in an unsealed envelope. Postage $\frac{1}{2}$ d.

Chelmsford Town Council have appointed a veterinary surgeon at a salary of £150 a year, among his duties to be that of inspecting and examining all the cows and cowsheds in the borough, taking samples of milk from cows when considered advisable, attending the market, and acting generally as professional adviser to the Council in all matters relating to animals.—*East Essex and Halstead Times*.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, June 4.

TERRITORIAL FORCE. IMPERIAL YEOMANRY.

North of Ireland. Vet.-Lieut. J. M. Magill resigns his commission. Dated June 5.

Major Daniel C. Pallin.

We regret to report the death on 29th May, at Gillingham, Kent, of Major Daniel C. Pallin, retired pay.

Major Pallin was born on March 6th, 1850, graduated April 16th, 1874. Joined the Army April 21st, 1877,

and Gazetted to the Royal Horse Artillery, was transferred to 14th Hussars April 30th, 1879, and to the Army Veterinary Department in April, 1881.

He served in the South African War, 1881, Transvaal Campaign, and the South African War 1900 to 1901 as Senior Veterinary Officer 1st Division. Was present at the advance on Kimberley, including action at Magersfontein, Operations in Orange River Colony, May to November, 1900, including actions at Lindley (June 1st) and Rhenoster River. Queen's South African medal with three clasps.

OBITUARY.

ROBERT WM. POWELL, M.R.C.V.S., Sheffield, Beds.

Graduated, Edin: April, 1881.

Mr. Powell died on May 31st, from broncho-pneumonia supervening malignant growth. Aged 57 years.

Re CURRENT TOPICS.

Sir,

Greatly as one would deplore the extinction of one's *Alma mater*, there is much in Mr. Gray's indictment that cannot be contradicted, and at the recent discussion at the Central Veterinary Society a very poor attempt was made to vindicate the policy of the Royal Veterinary College. The College is undoubtedly guilty of underselling, and, what is even worse, of advertising its cheap practice, which, coming from so high a quarter, naturally attracts the public and takes the bread out of the mouths of her late students, ignoring the high ideals preached and insisted on by the R.C.V.S.

Why cannot the teaching schools accept the situation, which is an undoubted fact—that by the advent of motors and electric traction more than one-half of the earnings of the V.S. is gone, never to return, and that for some years to come there will be fewer and fewer students; let them reduce expenses, wait better times—times when we shall really be in a position to be considered worthy to occupy those posts now filled by medical men and others; in the meantime it would be only generous and fair for the teaching schools to confine themselves to teaching alone, combined with cheap practice gratuitously given to the really poor.

Bearing on the foregoing subject is that of unqualified assistants. I was much gratified to notice that at a recent Council meeting Sir John M'Fadyean spoke very strongly on this matter, emphasising the fact that had prominence been given in the forthcoming Bill to this question of unqualified assistantship, it might have met with more approbation. Of course it is difficult to limit the duties of the unqualified, but surely our Council is capable of drawing up a list of operations, etc., which the unqualified assistant should not perform. This question of the "unqualified" has another unfortunate aspect, the "unqualified" keep out the "qualified" from earning their due, and so increase the already overcrowded unemployed.

Apropos of reduction of horse-practice, I have within the last two years met men who have been in capital practices in London all their lives whose incomes have been reduced by more than one-third.

In conclusion, there are a few things in the Annual Report which will bear discussion (that of apprenticeship is important), and I do hope that our Irish members will show more enthusiasm in the yearly meeting than our English do, and show by their numbers that they take interest in the politics and welfare of the profession. In the balance-sheet I notice very large sums for law expenses, salaries, printing, sundries, etc.; with the troubled finances of the College, I should have supposed those might have been reduced, but of course I do not know, and plead being a bad "cashier." I must apologise for this letter, which, had I been in a position to have attended the Annual Meeting, I should not have troubled you with.—Yours, etc.,

HENRY DYER.

Blackheath, May 28th.

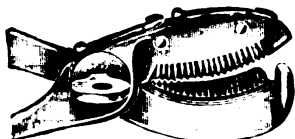
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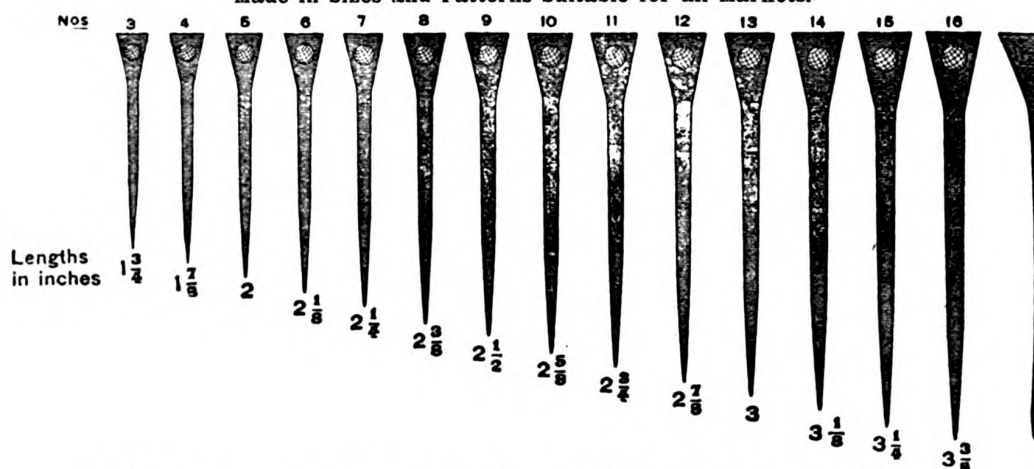
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JUNE 15, 1912.

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Lincolnshire V.M.A.

A Meeting will be held at the Griffin Hotel, March, on Thursday, June 20th. The chair will be taken by the President, H. H. Truman, Esq., M.R.C.V.S., March, at 2-30 o'clock. Agenda: Routine business. Address by the President. Address and illustrations by S. Stockman Esq., M.R.C.V.S., upon "Contagious Abortion." Members of the profession are cordially invited.

Members are invited to bring forward cases for discussion and to exhibit specimens.

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NATIONAL VETERINARY ASSOCIATION,

President: WM. WOODS. F.R.C.V.S., Wigan.

The Annual Meeting will be held at the
TOWN HALL, MANCHESTER,
Wednesday and Thursday, July 24th & 25th
Annual Banquet on the evening of Wednesday, July 24th.

The Provisional Committee have arranged for the following papers:—

Veterinary Education (pre and post-graduate) Maj. Gen. F. SMITH, F.R.C.V.S.
 on Wednesday, July 24, at 10 a.m. Discussion opened by Prof. SHARE-JONES
Phalangeal Ostitis, WM. HUNTING, F.R.C.V.S.
 at 2.30 p.m. Discussion opened by Prof. MACQUEEN
Bovine Tuberculosis, Prof. DELÉPINE
 on Thursday, July 25, at 10 a.m. Opened by Prof. AINSWORTH WILSON
Abdominal Surgery in Veterinary Practice, Prof. WOODRUFF
 at 2.30 p.m. Discussion opened by Prof. O'CONNOR

On the 26th the members are invited by the Lancashire Veterinary Association to an Excursion and Picnic at Rudyard Lake in Staffordshire.

DRUGS, INSTRUMENTS, ETC. Those desirous of exhibiting should apply at an early date, stating space required, to—

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1249.

JUNE 15, 1912

VOL. XXIV.

REPORT OF THE DEPARTMENTAL COMMITTEE UPON FOOT-AND-MOUTH DISEASE.

This Report appeared with commendable celerity, and may now be obtained at the cost of 1½d. Veterinary surgeons will find it worth reading, especially with regard to the ultimate possibilities arising from some of its suggestions and recommendations.

A short history of foot-and-mouth disease in this country is given, and the present knowledge of the affection is very briefly sketched. Nothing new has been brought forward upon the latter subject, except that the Committee have received some evidence indicating that the virus may live longer outside the body than is usually supposed—a by no means unimportant point. The Committee emphasise the importance of gaining more exact knowledge of the disease; and here it is satisfactory to find a recommendation that the enquiry now being instituted in India should receive liberal aid from the Treasury.

A proposal to establish an experimental station to study the disease in this country or upon an adjacent island has been considered, and is condemned as constituting a permanent danger from infection. The next sentence deserves quotation in full. "The Committee, however, suggest that mutual benefit might result from the establishment elsewhere of an international experimental station fully equipped for research in diseases of animals, and they strongly recommend that continental, and possibly other, countries should be approached with a view to co-operation in this matter." Suggestions for international co-operation, indeed, form a feature of the Report. Further on the Committee urge that foot-and-mouth disease should receive serious consideration at the International Veterinary Congress of 1914, especially with a view to the institution of joint action by the Governments of infected countries.

No great immediate change of action against the disease itself is recommended. The introduction of preventive inoculation in the area around an outbreak, in order to lessen the number of animals slaughtered, is suggested as worthy of consideration by the Board of Agriculture, but not directly advised. The possible objections to such methods are recognised; and a further useful recommendation is added—that the Board should be empowered to supervise and if necessary to prohibit inoculations and experiments with dangerous viruses.

As regards the prevention of the importation of disease, the Committee have evidently been baffled by the old stumbling block—the prohibitive interference with trade that would result from the exclusion of all articles capable of being media of

contagion. A list of the articles most open to suspicion is given, and a variety of recommendations made with a view to minimising their danger.

Special attention is given to the sterilization of hides and skins, and here again international co-operation is suggested. The Committee propose that Great Britain should take the initiative in an attempt to devise and arrange methods of uniform international action, and suggest that the first steps to this end should be taken by the Board of Trade. Other diseases than foot and mouth, notably anthrax, are of course involved in this question of sterilization.

Towards the conclusion of the Report, we find some very important expressions of opinion upon veterinary inspection. The advanced pathological and epizootical knowledge necessary to a veterinary inspector is emphasized, and the Committee urge the speedy establishment of a post graduate diploma by the R.C.V.S. It is further strongly recommended that "the appointment of all veterinary inspectors of local authorities should be in accordance with uniform rules relating to qualifications to be laid down by the Board of Agriculture," and that whole time veterinary inspectors should be appointed throughout the country as chiefs of administrative areas to superintend the work of the local inspectorate. These whole time inspectors should command a salary "large enough to attract the best men in the profession," part of it paid by the Board of Agriculture, to whose sanction all appointments and dismissals should be subject.

Finally, after indicating approval of the Foreign Animals Order of 1910 and the amending Foreign Hay and Straw Order of 1912, the Committee conclude by expressing warm appreciation of the work of the Board of Agriculture. It is recognised that the freedom of this country in recent years from widespread epidemics is due to regulations so admirably carried out by the officers of the Board, and those of the local authorities"; and two or three sentences of emphatic praise conclude with the opinion that "every encouragement should be given to the Board to continue a policy which has proved successful." We shall all agree with this; but it is pleasant to see it in a Government report.

The Report is exceedingly interesting and suggestive. It is true that, so far as direct immediate action against foot-and-mouth disease is concerned, it leaves matters very much as they were. But it contains recommendations which, if they are acted upon, will potentially influence the control of foot-and-mouth, and many other diseases; and some of them will have a great bearing upon the conditions of veterinary work.

STOMACH STAGGERS.

In *The Veterinary Record* of March 2nd, an article appeared from the pen of Capt. Rainey, of Blomfontein, South Africa, in which he endeavoured to show that the presence of bots (*Gastrophilus equi*) in the horse's stomach produced the disease known in this country as stomach or grass staggers. This disease is generally thought by the farming community in this country to be caused by "bots" or "paapjies," as they are called by the Boer, and moreover, every abdominal complaint is put down to "bots."

Since I have been in this part of South Africa I have seen many cases of stomach staggers and have had unusual opportunities for making post-mortems. The lesions found are practically always similar, and the one condition which is always present is Cirrhosis of the liver. It was conclusively proved by Mr. Chase, M.R.C.V.S., Government Veterinary Surgeon, who was stationed at Molteno for the purpose of investigating the nature and cause of cirrhosis of the liver in stock, that the cause of stomach staggers in horses and "Molteno" disease in cattle was the ingestion of the weed called Ragwort (*Senecio latifolius*). Mr. Chase fed the plant to horses and cattle and invariably produced the disease in his experimental animals.

The lesions and microscopic appearances of the liver corresponded with the description given of the livers of cattle which have died of "Pictou" cattle disease in Nova Scotia. A similar disease known as Winton's disease exists in New Zealand, and Prof. Gilruth, in his annual report for 1904, showed how the Ragwort (*Senecio Burchelli*) produced this disease. It was Mr. W. Robertson who, in 1905, or thereabout, carried out some feeding experiments with Ragwort, and produced the well-known symptoms of stomach staggers in horses and "Molteno" disease in cattle.

Although the *S. Jacobius* and the *S. Burchelli* exist in this country, the *S. latifolius* is by far the most common. In Robertson's experiments the amounts of *Senecio* given to the cattle were—

Ox 64,	2oz. per diem for 31 days	3lb. 14oz.	
"	4oz. " 17 days	4	4
Total		8	2
Ox 65,	3oz. per diem for 31 days	5	13
"	4oz. " 17 days	4	4
Total		10lb.	1oz.

These amounts killed these oxen in 48 and 43 days respectively. The active principle of this weed has been isolated, and it seems when administered to exert a specific action on the liver, producing cirrhosis. It appears that the weed is eaten by stock when it is young and green (shortly after the veld has been burnt) and it may take years to produce the typical symptoms, which, once shown, are always fatal.

FRANK CHAMBERS, M.R.C.V.S.

Umtata, Tembuland, S.A.

GENERALISED MILIARY TUBERCULOSIS.

By HENRY B. EVE, M.R.C.V.S., Folkestone.

A valuable pedigree maiden bull bitch, aged two years and six months, a descendant of the well-known sire, "Rodney Stone," the property of a client.

History. Had been purchased for breeding purposes but had never properly come in oestrus. It had previously been used to an outdoor life in a kennel, but had always slept in the house since owner bought it, and lived on the best of everything, in fact had been coddled. It developed catarrh, which the owner treated for an attack of influenza. For a time it appeared to get better, and was sent into the country for a change of air, and returned home in due course.

Symptoms. The bitch showed the following symptoms: a dry husky cough at first, which was more noticeable in the early morning, later on it became looser, with excessive expectoration of phlegm and rapid emaciation, although the appetite was at first fairly good. Patient gradually became very weak, and had intermittent diarrhoea, which was at times tinged with blood. Temperature elevated, varied, generally higher at night. There was a profuse purulent discharge from the eyes, and excessive thirst. Auscultation of the chest revealed distinct râles and pain on percussion. Pulse accelerated, breathing hurried, occasional bleeding from both nostrils.

Suspected tuberculosis: decided to try tuberculin test. Prognosis unfavourable.

Treatment. Isolated and tested the animal with tuberculin, which gave a typical reaction. Followed on with medicinal doses of the reagent, combined with open air treatment. Bathed the eyes with boric acid sol.; applied ice to the chest and injected Adrenalin, to arrest the hæmorrhage. Quinine salicylas, tonics, etc., internally.

The diet was raw meat, tripe, fish, boiled milk, raw eggs, cream, Angiers petroleum emulsion, Virol, Larvins.

Animal improved for a time, and began to put on flesh; the cough and expectoration disappeared; the diarrhoea and discharge from the eyes diminished. Suddenly the animal was attacked with a violent fit of coughing, which was followed by extensive hæmorrhage and delirium. The animal was destroyed with chloroform as the case appeared to be hopeless.

Post Mortem. Liver, lungs, kidneys, lymphatic glands were all affected. The mouth showed lesions of stomatitis, and the skin was very red as though suffering from Eczema rubrum, especially noticeable about the legs, thighs and feet. Spleen only slightly affected at its apex.

Remark. Surprised at the reaction as the disease was so advanced.

ABSTRACTS FROM FOREIGN JOURNALS

CANCER OF THE BLADDER WITH RESULTANT HYDRO-NEPHROSIS IN A DOG.

Hydro-nephrosis is fairly common in the ox and pig; but is much more rare in the horse, and appears to be rather exceptional in the dog, judging by the small number of cases which have been described in that animal.

Hypertrophy of the prostate is a fairly frequent cause of hydro-nephrosis in the dog, as recorded by Liénaux and Leighton. Affections of the ureters should also be cited; and two interesting cases of this have been published by Almy and Ball respectively. Tumours of the bladder may have a similar effect. Suffran and Daille have described a case in which a tumour, the histological nature of which could not be exactly established, invaded the orifices of both ureters in succession and determined their obstruction. Other causes, such as calculi or perineal hernia of the bladder, may have the same effect of causing mechanical obstruction of the flow of urine.

E. Haynens, assistant at the Belgian Veterinary School, now records a case of a six-years-old male dog which was brought to him. The owner's account was that the animal had slowly wasted and passed blood in the urine for a period of a month and a half, after which the hæmaturia had ceased for a time, only to repeatedly recommence. It was in the course of one of these relapses that Haynens saw the dog for the first time.

When examined the general condition of the animal was bad. Emaciation was very marked, the coat was dull and stiff, and the eyes dull and sunken in their orbits. The dog remained lying down for the most part, and showed complete lack of interest in his surroundings. Progression was slow; and, despite all stimulation, it was impossible to make the animal run. Beyond this dulness, the nervous system did not appear affected; for the sensory and motor functions were intact.

The respiration was normal. The pulse was strong, and a little accelerated. The mucous membranes were pale, slightly yellowish, and appeared infiltrated. The pulsations of the heart were visible behind the left elbow. The cardiac sounds were normal, with the exception of a slight murmur. The area of cardiac dulness was more extensive than normal, and hypertrophy of the heart manifestly existed.

The appetite was bad, only pure water and a few pieces of meat being taken. There was no vomiting. The abdomen was hollow; and the fæces were normal, but scanty.

Micturition was frequent, very painful, and long-continued. Only a small quantity of urine was passed at a time, and attempts to micturate were not always successful.

The urine was blackish in colour, and had a strongly ammoniacal odour and an alkaline reaction. Chemically, it contained a rather large quantity of albumen. When centrifuged it yielded a deposit

composed of white blood corpuscles, desquamated cells of the bladder, and various microbes, but no red blood corpuscles, cylinders, or renal cells. The alkaline reaction and the ammoniacal odour indicated that the urine had undergone ammoniacal fermentation in the bladder, which was therefore infected. The red corpuscles had undergone hæmolysis in the strongly alkaline liquid, and their colouring matter remained dissolved in the urine.

The external genitals presented nothing abnormal, and rectal exploration showed the prostate to be of the usual size. Abdominal palpation, however, at once revealed the existence of a hard body the size and shape of a large fowl's egg, situated at the boundary of the abdominal cavity and the anterior opening of the pelvis, and mobile from side to side and from below upwards. This body could not be drawn forward towards the abdominal cavity, but could easily be displaced towards the pelvis. Evidently, therefore, it was connected with the bladder, and the alternative diagnosis of vesical calculus and vesical tumour suggested themselves. The symptoms accorded with either diagnosis, and laparotomy was therefore decided upon.

Under anaesthesia by chloroform, an incision was made upon the right side of the prepuce, revealing the bladder in its normal position. The organ was not enlarged, but was hard; and its surface was irregular and, at some points, blackish in colour. It was easy to recognise the existence of an extensive tumour occupying about two-thirds of the vesical wall.

The only efficient operation would have been complete extirpation of the bladder, which is practically impossible in animals on account of its disagreeable consequences. Destruction was therefore advised and carried out.

The lesions, when completely examined post-mortem, were very interesting. The tumour occupied the anterior extremity of the bladder, and extended in the superior wall as far as the trigonum vesical. The mucous membrane was ulcerated over a surface about the size of a two-franc piece, and at this place the tissue of the tumour showed a grey colour and an anfractuous surface, which was bleeding at several points. Upon section the neoplasm showed two aspects. For the greater portion of its extent it distinctly resembled a scirrhus cancer, showing a very considerable connective tissue stroma, in the midst of which small yellowish points, slightly softened, were observed. In other parts, on the contrary, and especially towards its external aspect, the tumour resembled an angioma.

Histological examination of different portions of the growth absolutely confirmed the macroscopical diagnosis. The case was one of primary carcinoma of the bladder. In the epithelial islands (which were rather rare in the scirrhus portion of the tumour and closely approximated together in the portion resembling an angioma) the characters of vesical epithelium were found.

The two ureters traversed the tumour; but, while the left one allowed urine to pass fairly well, the right one was completely obliterated and allowed no passage. The right ureter was considerably dis-

tended; it was the size of a finger, and its wall was thin.

The right kidney was triple its normal volume, and its surface was smooth and whitish. When incised it gave exit to a yellowish sticky liquid. The wall of the kidney was scarcely three millimetres thick, and the crest of the renal pelvis had completely disappeared.

The evolution of the lesions was easy to comprehend. The tumour had slowly invaded the periphery of the right ureter, causing its progressive obstruction, and finally leading to hydro-nephrosis.—(*Annales de Méd. Vét.*).

PARALYSIS OF THE ŒSOPHAGUS IN CATTLE.

P. N. Pedersen reports (*Maanedskrift for Dyr-læger*) that he saw about ten cows upon one farm affected with paralysis of the Œsophagus in the course of the summer and autumn. The body temperature of the patients was normal throughout, the fæces were rather darker in colour than is usual, the appetite was poor, and the power of swallowing was totally or almost totally suspended. Food, when taken up, remained lying in the mouth. When the mouth was opened, abundant saliva flowed from it. Neither swelling nor sensitiveness could be distinguished at any point. The animals lay a great deal, and the visible mucous membranes appeared pale.

Two of the affected cows died. In the case of one, post-mortem examination revealed a considerable inflammation of the small intestine. In the other, post-mortem examination showed no noteworthy divergences from the normal.

The treatment adopted (of which details are not given) was purely symptomatic. The author can throw no light upon the cause of this peculiar affection.—(*Berliner Tier. Woch.*)

COMMUNUTED FRACTURE OF THE SUPERIOR EXTREMITY OF THE RIGHT RAMUS OF THE INFERIOR MAXILLA—FOLLOWED BY PSEUDO-ARTHROSIS.

Lasserre records (*Rev. Gen. de Méd. Vét.*) the case of a mare which, for about six months, had shown a daily increasing difficulty in mastication and lost condition considerably, also presenting a unilateral catarrh upon the right side.

When seen by Lasserre the animal was extremely emaciated. Examination of the head showed a slight deviation of the inferior maxilla towards the left. The right orbital cavity appeared "filled up" and the eye showed a certain degree of exophthalmia. Upon the edge of the right branch of the inferior maxilla was a narrow, elongated, cold, indolent swelling, hard in consistence, which seemed connected with the bone, and ascended about as far as the temporo-maxillary articulation.

Diagnosis was reserved; and, despite a thorough examination of the animal and careful exploration of the buccal cavity, the author could only suppose the lesion to be a tumour situated in the temporo-maxillary region. In view of the gravity of the case, slaughter was advised.

Post-mortem examination revealed a lesion which had been quite unsuspected. The right branch of the inferior maxilla showed a fracture, the crescent-shaped superior fragment of which comprised the condyle and the coronoid process. The two fractured parts were maintained in contact, first by the external and internal masseter muscles, and then by a thick fibrous membrane, the superficial face of which was intimately blended with the deep muscular fibres. This fibrous ring was closed for the greater portion of its extent, but anteriorly it presented a cleft of from 4-5th inch to 1 1-5th inch, which put the seat of fracture into communication with the mouth. Incision of this fibrous membrane revealed a centre of osteo-myelitis, containing pus and numerous splinters of bone. The periphery of the seat of fracture was the centre of a hypertrophying osteitis.

The fracture had thus partially cicatrised in the form of a fibrous pseudo-arthritis. There was a history of the animal falling into a pit a year-and-a-half previously, and the author thinks that this had probably occasioned the fracture.—(*Annales de Méd. Vét.*).

EXPULSION OF UTERINE COTYLEDONS IN A COW.

Larrien reports (*Revue Vétér.*) the case of a cow which, at her first parturition, gave birth to two calves. The aid of the veterinary surgeon became necessary, but the delivery presented no serious difficulty, and was concluded in a quarter of an hour. The membranes were expelled spontaneously six hours after parturition.

The sequelæ of the parturition were nearly normal until the eighth day, when the animal suddenly began to strain. This resulted in the expulsion of about twenty cotyledons detached from the uterine mucous membrane. Larrien then explored the uterus, and extracted sixteen more cotyledons, which were freed from all adherence to the uterine walls. He followed this up by antiseptic injections, and the next day about ten more cotyledons were expelled spontaneously.

Larrien calls attention to the following points in this case—the parturition was accomplished in good conditions, the membranes were expelled early, and, finally, the cotyledons which were expelled were of considerable size, and appeared not to have undergone the rapid involution which customarily follows parturition. He thinks it logical to attribute the latter fact to an initial lesion of the uterine mucous membrane, which had entailed circulatory disturbances.

Upon this hypothesis, it is easy to conceive the possibility of a more or less considerable mortification of the mucous membrane and the cotyledons.—(*Annales de Méd. Vét.*)

W. R. C.

The full return of the voting at the Annual election of Council was:—M'Fadyean, 1245; Trigger, 1087; Garnett, 1072; Thomson, 934; Share-Jones, 928; Clarkson, 912; Pringle, 837; Price, 761; Burt, 759; Dewar, 671; Packman, 541; Spruell, 453.

Royal College of Veterinary Surgeons.

THE ANNUAL DINNER.

The Annual Dinner was held for the first time in Ireland, on Wednesday evening, 5th of June, in the Royal College of Surgeon, Stephen's Green, Dublin, and was attended by the Lord Lieutenant and a distinguished company. By kind permission of the President, Vice-President and Fellows of the Royal College of Surgeons, the spacious halls of the College of Surgeons were placed at the disposal of the guests for the occasion. Prof. A. E. Mettam, B.Sc., M.R.C.V.S., President of the Royal College of Veterinary Surgeons, presided.

Prof. Mettam received his Excellency, who was accompanied by his private Secretary, Mr. Max Greene and Capt. Forbes, A.D.C., in the Reception Hall, and presented the members of the R.C.V.S. Council.

The following names are taken from the seating plan of the tables:—The President R.C.V.S., supported on his right by His Excellency the Lord Lieutenant; on his left by the President Royal College of Surgeons, Ireland (Mr. R. D. Purefoy); and by Rt. Hon. Lord Mayor of Belfast, M.P.; President, University College, Galway (Prof. A. Anderson, M.A.); Rt. Hon. Jonathan Hogg; Rt. Hon. M. F. Cox, M.D., P.C.; President University College Dublin (Dr. G. J. Coffey, M.A., M.B.; Sir Charles Cameron, C.B.; President, Incorporated Law Society (Mr. Gerald Byrne); Mr. P. J. O'Neil, J.P.; Mr. R. E. Woods, F.R.C.S.I. (late President R.C.S.I.); Sir Jos. McGrath, Lieut. Col. Moore, P.V.O.; Mr. J. R. Campbell, B.Sc.; Rt. Hon. The Earl of Fingall, Prof. M'Weney, Mr. C. Allen, F.R.C.V.S.

At the cross tables, facing the President, J. H. Carter, supported by Mr. Fred Bullock, Registrar, and Mr. G. Thatcher, Solicitor; at the others, Messrs. R. Roberts, and G. A. Banham.

Dr. Burgess, F.R.C.S.; Mr. T. A. Arkins, B.A.; Private Secretary to His Excellency; A.D.C.-in-Waiting to His Excellency; Dr. W. S. Houghton, B.Ch., L.M.; Mr. J. N. Lamphier, P. M. Rath.

Fellows and Members: Messrs. J. V. Daly, F. W. Garrett, Prof. G. T. Dunne (F), W. H. Wilkinson, Prof. J. F. Craig, M.A.; J. J. Ross, J. A. Thompson, P. J. Howard, A. Dobbyn, J. Doyle; T. R. Mulcahy, J. J. MacCormack, E. C. Winter (F), Rd. Ebbitt, J. S. McCann, W. J. Ferguson, M. Quinn, F. Shearman, S. T. Groome, B. H. Mellon, D. S. Prentice, Jas. Græg, A. Watson, Lieut. Hon. G. A. V.C., W. Ashe King, J. Purdy, W. T. M. Browne, F. A. Heney, Sydney H. Slocock (F), J. F. Healy, F. Hobday (F), J. Share-Jones (F), J. A. Hewson, R. B. Freeman, J. McKenny, F. Kerr, A. J. Moffett, J. B. Hare, J. V. Mahony, T. F. Renshan, Prof. J. J. O'Connor; W. Cargill Patrick, W. J. O'Donoghue, E. McSwiney, G. H. S. Jarratt, Capt. Deacon, A.V.C.; Alex. Monro (F), A. A. Donnelly, H. W. Carbury, J. J. G. Keppel, J. D. Richardson, F. C. Ryan, J. B. Dunlop, W. Shipley (F), F. C. Mason, R. H. Lambert, L. M. Magee, P. D. Reavy.

Drs. Russell, L. V. Hunt, Benson Golding, Maginnis; Rev. A. Mitchell; also Messrs. R. Cantrell, L.S.O., J. Healy, J. Fogarty, J. Delaney, J.P.; J. Williams, S. T. Land, J. V. Coyle, A. Miller, J.P., Registrar R.C.S.I., and G. E. Haines, Registrar R.V.C.I.

On the call of the President the toast of "The King" was responded to with musical honours.

The PRESIDENT, in proposing the toast of "His Excellency the Lord Lieutenant and the prosperity of Ireland," said: "My Lords and gentlemen, this is indeed an auspicious occasion that we have as the honoured guest of the profession his Excellency the Lord Lieu-

tenant. (Applause). We, members of the Council, highly appreciate the presence of his Excellency here this evening, and wish it were possible he could be accompanied by his gracious consort, Lady Aberdeen (Applause) to whom Ireland owes so much for the initiation of that noble movement—the crusade against tuberculosis. A monument of their sojourn in Ireland would always be found throughout the country in that movement which is bringing health and happiness to so many homes. (Hear, hear). We, as a profession, recognise that great movement as a valuable factor in preventive medicine and we wish to show our appreciation of it. The National Health movement has indeed come to the rescue, if I may so term it, and is going to assist the movement for the provision of sanatoria for tuberculosis. They are going to show the County Councils of the country how to undertake certain lines of treatment to be followed by the people throughout the country, and the people will take advantage of the Insurance Act by the erection of sanatoria. I think this movement is scarcely sufficiently appreciated or brought home to the people generally. We, who are more or less associated with the study of medicine, appreciate the movement in its entirety and recognise the great value of the crusade against tuberculosis. (Applause). I have done what I could to assist their Excellencies in their efforts, and I wish to assure his Excellency here that they have the sympathy of the veterinary profession. (Applause). It is to be hoped that great good will accrue from what they have done and are doing.

Associated with his Excellency in the toast we have "the prosperity of Ireland." Do we not all hope for the prosperity of Ireland, and is not our very existence bound up with the prosperity of Ireland? (Applause.) How can the prosperity of Ireland be furthered better than by increasing the happiness of the people in the homes of Ireland, and I do not think we can better appreciate this than by saying how much their Excellencies are doing for the health and happiness of the people's homes. I ask you to drink a bumper to the health of Lord Aberdeen and his gracious consort Lady Aberdeen, wishing them more strength and all health and happiness in the great work they have undertaken for the welfare of Ireland. (Applause).

Lord ABERDEEN, who on rising to respond was enthusiastically received, said: This delightful and genial manifestation will I assure you be long remembered by me, and so far as in my power it will be faithfully transmitted to Lady Aberdeen. (Applause.) You will notice that the President with kindly discrimination alluded to that movement with which our names have been related, and referred to the health and happiness of the home. Surely this health movement is primarily and essentially concerned with the happiness of the home. (Hear, hear.) How can we have happiness in the home without health. The Viceregal Milk Commission is an example of the comprehensiveness aimed at in that movement. We all know what an important article of diet milk is, especially regarding the rising generation. Again I must express my thanks for the expression so gracefully and heartily offered from the chair and so well received by you. (Applause.) There are some people who do not like references to health—it is an insult to them; well, there is no accounting for tastes, for some people do not like horse-racing. (Oh! Oh! and laughter). I do not understand why some people do not like to hear about health, but I do not think that anyone having anything to do with this movement will have occasion to regret it. (Hear, hear.) But such a movement as that does not prevent the maintenance of interest in other important undertakings. In the prosperity of Ireland, for instance, the promotion of industries has played an important part. I may be allowed to allude to one department of those

industries—the Lace Depôt—an important department in our Irish industrial life. The Irish Lace Depôt in Molesworth Street, if I may divulge the fact, during the twelve years it has been in existence has passed £290,000 sterling into the pockets of the women and children of Ireland. (Applause.) That is the result of the Lace Industry as may be verified by a visit to the headquarters at 35, Molesworth Street.

Now I am sure that we all feel that we assemble under most auspicious circumstances: it is a delightful occasion. We are the guests here of this most important organisation, this Institution so vitally concerned with some of the most fundamental business interests of this country. But it is a genial, hospitable occasion and we are not overburdened with the scientific discussions of the subject. Do not be afraid, gentlemen, that I shall be rash enough to make allusion to scientific matters—it is very dangerous for a layman to do so. (Laughter.) That reminds me of a story. A man asked a friend: how his little horse was doing, and the friend said, "He is very bad indeed; he is suffering from a very bad attack of the 'vernacular.'" The friend replied, "Well I never heard of any four-footed baste with that complaint—at least not since Balaam's ass." (Laughter.)

I need not prolong my speech except to say that I heartily appreciate the kindly words spoken by your President. (Applause.)

Mr. F. W. GARNETT, J.P., M.R.C.V.S., proposed the toast of "Medicine," and said that medicine in the past offered many martyrs to science; that night she offered another, but, no martyr ever went more cheerfully to the stake than himself in proposing the toast. (Laughter.) Medicine in every branch was represented there and also every branch of surgery, veterinary surgery and preventive medicine, which had become the factor of all medical science. Looking to the past, where medicine came from, and to the future, where it is going, if there was one profession in the world which gained more by its faith it was the medical profession. From the beginning of history faith had caused medicine to divide into two great sections—the licensed and the unlicensed. There were few men in medicine who have not made something out of faith—certainly there were many patent-medicine vendors who have made a great thing out of faith. (Laughter.) The great epoch in medicine which opened the eyes of faith-curers began with the discovery of antiseptics by the great Lister. (Applause.) That showed people that there was something besides faith in medicine. At the same time and almost concurrent with it another great factor began to creep into the practice of medicine, and that was, very slowly and gradually, the development of preventive medicine. It was on that side that all medical practitioners should concentrate their thoughts, for whatever benefits medicine may have given to humanity in the past there were still greater benefits to be gained in the future and gained by the uprooting of the blind faith in potions and lotions, which were so fashionable with the highest practitioner and with the lowest vendor of patent medicines. "We want a missionary service to educate the public to what medicine has arrived at to-day," Mr. Garnett continued. The entire feeling, the whole aspect of medicine has totally changed, and the study of preventive medicine would bring more honour to the profession than anything that has taken place in the past. Ireland was never behind-hand in the forward march of the profession, and he had great pleasure in coupling with the toast the names of Sir Hawtrey Benson and Mr. R. H. Woods as representing medicine and surgery.

Mr. R. H. WOODS, M.D., ex-President R.C.S.I., responded. It was only last night he learnt that Sir Hawtrey Benson, who was to reply to the toast on behalf of medicine would not be present, so he found himself responsible for replying for both surgery and

medicine. Proceeding, Mr. Woods said the Royal College of Veterinary Surgeons was a young and vigorous body, and a body, judging by its short history, that had a brilliant career before it. (Applause.) He thought it had achieved work that any institution in this or any other country might well be proud of. There was one respect in which the purely medicine men envied the members of the veterinary profession who had a great advantage over them, in the fact that when they of the veterinary profession did make a mistake they had no one to tell them so. He presumed that they did sometimes make mistakes, for there is no surer sign of an impostor than a person who never makes a mistake. He thanked them very heartily for the kind way they received the toast. (Applause.)

In calling on the Right Hon. Dr. M. F. Cox, F.R.C., M.D., to respond on behalf of the medical profession in the unavoidable absence of Sir Hawtrey Benson, F.R.C., C.P.I., the Chairman said that Dr. Cox was a distinguished leader of medicine, a great friend of the veterinary profession, and the author of the only book on "The Horse" read in Ireland.

Dr. Cox alluded to the many Irish names famous in the medical profession, such as Corrigan, Graves, Stokes, Cruise and others who have now passed away, and he recognised the great names in surgery also which, like the British Army could accomplish the almost impossible. (Applause.) He had been connected with the Veterinary College as a member, and he certainly was one who wished well to their profession. He loved horses as much as any man, and like most of his audience he had been lucky enough to own horses. He had once (assisted by a friend present) "perpetrated" a little book on "The Irish horse," and it had the honour of being quoted by Ridgeway and other distinguished writers. (Applause.) The Irish horses were famous since the dawn of history. In the middle ages the Papal Chariot of the Duke of Ferrara's staff were horsed by Irish hobbies brought specially from Ireland. The day of the motor had now come, but the day of the horse was not yet done; when squadrons mustered for war, at hunting, which the noble Lord (Lord Fingall) present with them illustrated, at racing, as that Derby day showed, the horse was still to the fore. Horses no less than men have contributed much to the making of the world's history, and the men who devoted their energies to the alleviation of the sufferings of the thoroughbred or the farm horse deserved to be thanked. Therefore as a medical man, as a physician, and as member of the Governing Body of the College he (Dr. Cox) replied to the honour of the twin branches of medicine and surgery. He was proud to think that they had done no small share in improving the breed of the horse, and he wished them, the veterinary profession, all success in the work of alleviation of equine suffering and in equine medicine in England and Ireland. When they, the members of the Royal College of Veterinary Surgeons, were by their energy and ability seeking to improve the breed of horses in Ireland, they were doing a noble work in the interests of the country. (Applause.)

Mr. JAMES MCKENNY, M.R.C.V.S., proposed the toast of "Agriculture." They could not have drunk so heartily to that toast or dined so well were it not for the great industry of agriculture: the prosperity of agriculture supplied that admirable dinner and was the occasion of the joyous meeting. Agriculture must also be considered with the problem of disease in fruit, vegetables, and animals. Some people, through want of knowledge, stated things which were untrue, and a week ago a gentleman was foolish enough to say that the veterinary profession knew nothing of contagious disease. ("No, no.") That reminded him of an experience of his own. He attended a lady's dog and found the animal suffering from pneumonia: the lady assured him that nobody in

the family had the complaint. He prescribed for the dog and the next day he was surprised to find, and they would be surprised to know, that the animal was no better. (Laughter.) The lady, who he cautioned about contagion, said she never suffered from prevention of disease in her life. (Laughter.) Three days later he saw the announcement of the lady's death from pneumonia. That lady suffered from want of knowledge, too. (Laughter and applause.) Some people thought that all we have to say is "presto! begone!" that the patient would be cured, and that we are magicians, not practitioners.

Mr. J. R. CAMPBELL, of the Department of Agriculture, in replying to the toast of "Agriculture," said that farming was in a promising condition now compared with a generation ago. The late eighties and early nineties was a period of great agricultural depression. Foreign competition was keen, prices fell, and land went under pasture to an extent from which it has not yet recovered. At that time there was no provision for agricultural education in Great Britain except in the University of Edinburgh. State aid was not available, and agriculture was regarded as a purely commercial concern. But while other industries could get cheap food from foreign countries, public opinion soon began to realise that a rural population, however it was to be maintained, was essential to the vitality of the nation. One of the indications in the change of policy was the passing of the Agriculture and Technical Instruction Act, 1889, and in the following year what was known as the Whiskey Money became available for agricultural education. Then came the establishment of the Department in Ireland; later still the Development Commission; only a few weeks ago the Board of Agriculture in Scotland; and he understood a demand was now being made for a similar Board in Wales. The tendency at the present time was for legislation to speed up the work of these existing Boards and Departments. Already in Ireland there was a law to compel farmers to cut certain weeds; vendors of agricultural seeds had to supply samples of their goods and state their origin; and in various other ways a certain amount of pressure was being brought to bear on farmers all over the United Kingdom. The Butter Bill now before Parliament, and the demand for compulsory registration of stud animals were indications of a movement in the same direction. So long as these measures were self-imposed, that is to say, were agreed to by the farmers themselves, and wisely administered, there need be no fear of the results. Referring to the success of the Irish Veterinary College he said that the Edinburgh University had just passed an ordinance for degrees in Veterinary Science, and he hoped in the near future similar action would be taken in Dublin. The Development Commissioners' grant of £50,000 for agricultural research included provision for veterinary investigation. He hoped this was but an earnest of still better provision for the future.

His EXCELLENCY proposing the "Royal College of Veterinary Surgeons," said: The announcement of this toast by the Chairman reminds you that we have now arrived at the main toast of the evening, "The Royal College of Veterinary Surgeons." (Applause.) I may remark by way of reminder as there are so many visitors present that this College is the central body of the profession. The Charter was obtained in 1844. The importance of this is manifestly to the interests of the profession. There are the various Veterinary Colleges also in different parts of the Kingdom; the Royal Veterinary College of London, the charter of which dates back from the year 1795. It is a matter of special congratulation that that College in the comparatively brief period should have made its mark in such a conspicuous and magnificent manner. (Applause.) The Royal Veterinary College of Edinburgh was incorporated ten years

later, and is a comparatively new one. The Annual Meeting of representatives of the profession is, I believe, usually held in London. But this year for the first time in the history of the Institution it has been held in Dublin, which is certainly a tribute to the position and prestige of the profession in this country; and particularly a tribute to your esteemed President. (Applause.) I can say with reference to the status of the profession, that it is steadily growing in the due and proper estimation of the whole public; and the interesting illustration of that has just now been given by Professor Campbell, who alluded to the recognition of the profession on the part of the Universities. (Hear, hear.) He mentioned that the University of Edinburgh and the University of London now grant academic degrees for attainment in Veterinary Science. This is distinct from the granting of diplomas, which are given by the Royal College and which have more directly to do with Veterinary Practice. As you know, in this department the Royal College maintains a very high and strict standard. We find we have indirect testimony in this way also, as I am informed by the President that some of the youngest and perhaps most zealous Governments—the daughter Colonies and States of Great Britain, such as South Africa—are flying to your College for qualified men to be sent out to fill official positions for the promotion and maintenance of veterinary science. It is delightful to hear how worthily the Body has maintained their traditions and added to their reputation. As for Ireland, the testimony given to-night is most gratifying as to the maintenance of the profession as a whole. Professor Campbell has said a few words, very aptly, about the action of the Department and the work of veterinary science, and concluded his remarks by alluding to the fact that veterinary dispensaries had been established in various parts of the country in Ireland, where they were most needed; and subsidies have been granted to veterinary surgeons to carry on the work in those districts. An allusion made to-night apparently referred to had its bearing in the lack of recognition and appreciation in the sense that they required more facilities and more encouragement than they yet enjoyed throughout the country as a whole, for as we all know, they have a most excellent equipment in the Irish headquarters, the Royal College. This toast will be coupled with the name of the Principal of that College, Professor Mettam. (Applause.) His name in connection with the College, even apart from his other achievements, should evoke expressions of the warmest admiration. I allude to what he had to do with the creation of the College, not only the creation of it in the general sense but in the literal sense—of the very construction of the College. I believe that he, day after day, was supervising the construction and equipment, thus saving much expense and ensuring that everything was done to the best advantage. (Hear, hear.) When we remember that, together with this arduous work, he was giving numerous lectures we can imagine the enormous energy and brain-power exerted. (Applause.) I think we may congratulate him for one who is still comparatively young; he celebrated only his 46th birthday last Sunday and he looks young—long may he flourish, not only in his official capacity but in his all-round activities and personal attractions and valuable qualities which endear him to all with whom he comes into contact. We may conclude by saying that we wish him long life and happiness. He has been ably supported by his coadjutor-bishop so to speak, in arranging this admirable banquet and the annual meetings of this great society. (Applause.)

The PRESIDENT, R.C.V.S., who was received with applause, said that he wished to thank his Excellency for the very kind way he had proposed the toast of the Royal College of Veterinary Surgeons, and for the very able way in which he had referred to the efforts of the

members of the profession in following their profession in this country. He also wished to thank him for the very kind references he had made to himself personally. The Royal College of Veterinary Surgeons, as his Excellency had already stated, came into existence in the year 1844. Its objects were to assist in the future teaching, to establish examinations and generally to look after the welfare of the profession. Since that time the profession, he claimed, had advanced by leaps and bounds. (Applause.) Veterinary surgeons had done their share of the work, sometimes he thought they had done more than their share in the advancement of medicine and surgery. In this country—he was referring to the United Kingdom—they had to fight their way unassisted by the Government, and indeed unassisted by any funds other than those which the individual members of the profession themselves possessed. Veterinary science and veterinary research had been carried out at the expense of the individual; they never had any assistance in these matters from the Government. The assistance that they might have at the present moment had only been given within the last two or three years. Any research work they did had to be carried out in the interval between the arduous work of the teachers. They all knew that a teacher's work kept him well occupied, and they could understand the difficulties under which research work was carried out. The duties of a professor were not necessarily to teach. They were rather to direct and preside over the laboratories which he controlled, and see things through to an end. If they were to advance in medicine they could only do so by teaching the truths which they learnt in the laboratories. They now recognised the fact that the state had come to its senses, if he might be permitted to use those words, and to show their appreciation of the work done in veterinary surgery and to give the assistance in veterinary research which should have been given years ago. (Hear, hear.) Their work was connected with animals, and the great asset and national wealth of Ireland was in its equine and bovine population. If Ireland was to prosper it must be by her herds increasing and multiplying, and by those herds going to other countries. If Ireland was going to be successful in the advance in agriculture made along the lines indicated by Prof. Campbell, she must raise and breed stocks for consumption and for breeding purposes in other countries. In such advance they, the members of the Veterinary profession would have an important part, for they would have to look after the treatment of disease. They would also have to look to the prevention of disease. Preventive medicine is the medicine of the future.

He would like now to refer to the question of their domestic policy. They had struck hard times. They were in the position that their income did not in any way come within measurable distance of their expenditure. Their expenditure continued at the same high level. They had endeavoured to bring students and undergraduates into line. They had increased the stiffness of their preliminary examination—they all know what that means—when the standard was raised it meant the cutting down of a number of possible entrants into the profession. They did not despite the fact that they knew that it would cut off a considerable portion of their income, but they did it in order to raise the standard of the profession. (Applause.) Their source of income now was derived from what was saved out of the expenses in connection with examinations and other duties in connection with the College. The profession had risen to the occasion when they observed the state of affairs. A great majority of the profession had agreed to a voluntary tax. It was necessary in order to make that voluntary tax a question of law to obtain an Act of Parliament, so that they could enforce it on the others. They had a Bill for that purpose before the House of Commons for several years, but owing to the pressure of

business there they had never been able to get it beyond its first reading. It was one of the innocents that had been massacred. (Laughter.) He hoped that before the present Session of Parliament terminated the Bill would become an Act, and that then the Royal College of Veterinary Surgeons would have in hand sufficient money to carry on and continue its good work. (Applause.) The work which was done by the Council of the Royal College of Veterinary Surgeons was not solely for the benefit of the profession but was more for the protection of the public. Let him ask them who were the great opponents of medicine, and they would agree that it was quacks who practised with patent medicines. They wanted to protect the profession against those who were not up to its standard, and they wanted to protect the public against those men who practised as qualified men and yet who had never set foot inside a college. If they could get rid of that class of men it would be a benefit to the public as well as to the profession itself. (Applause.) He thanked them for the way they had responded to the toast. It was, as His Excellency had mentioned, the first time that their meeting was held in Dublin, and the first time that their annual dinner was ever held at this side of the channel. Only once before, he believed, was it held outside of London. He understood from those present at the meetings that the meeting in Dublin had been a success. (Applause.) There were two distinct features of their gathering that evening. The first was the presence of His Excellency. (Applause.) It was an honour that the profession would cherish for many years to come. It was the most flattered and cherished honour that they in Ireland could contemplate, they would cherish the memory of the fact that His Excellency, the representative of His Majesty the King, graced their dinner table there that night. (Applause.) There was one thing they regretted—that he was not accompanied by Her Excellency Lady Aberdeen. The second feature was the courtesy and hospitality of the President, Vice-President, and Fellows of the Royal College of Surgeons for giving them the use of their hall. He would assure the President and he would assure his Council that it was an honour that they highly appreciated. (Hear, hear.) He again thanked them for the kind way they had received the toast and for the kind way they had associated his name with it. (Applause.)

Lieut.-Col. MOORE, P.V.O., proposed the toast of "The Visitors," which was responded to by Sir Charles Cameron, C.B.

During the evening choice songs were rendered by, amongst others. Dr. W. S. Haughton, R.CH., L.M., Mr. J. S. MacCann, M.R.C.V.S., and Mr. S. T. Land, and a charming musical programme was discoursed by the Ladies' String Orchestra, conducted by Miss Archibald.

A Plea for Veterinary Research.

At the Twenty-first meeting of the Council of Agriculture (Ireland) held at Leinster House, Dublin, on 22nd ult., Mr. T. W. Russell, M.P., Vice-president of the Department of Agriculture and Technical Instruction, presiding.

INVESTIGATION OF ANIMAL DISEASES.

Mr. Thomas A. McClure, J.P. (Co. Armagh) proposed:—

"That, in the opinion of this Council, the Department of Agriculture and Technical Instruction for Ireland are not sufficiently alive to the fact that diseases, communicable from one animal to another, are annually on the increase with alarming rapidity in many parts of Ireland. That the stamping out of disease has already become an

absolute necessity in order that stock-raising and the production of milk and beef may continue as profitable to the agriculturists of Ireland as heretofore. That it is abundantly evident to the vast majority of the rural ratepayers of this country that funds which are finding their way into other live stock channels, would, in all human probability, be much more profitably employed in the conduct of veterinary research work. That it be a recommendation from this Council to the Agricultural Board when next allocating the funds at their disposal, to provide sufficiently for such, even should this necessitate curtailment in other directions."

He said he did not think that many would disagree with him when he said that diseases in cattle in this country were decidedly on the increase. The number of cases of Red water and Bloody flux, he believed, was increasing everywhere. In his district the number had gone up considerably, and instead of being in a certain season, the disease was now prevalent all the year round. Last year the graziers in the Counties of Tyrone and Armagh were very hard hit with Red water, and many finished the season with the balance on the wrong side of their account. This season the death-roll had gone up, and especially with milch cows. The Department had expended large sums of money in live stock schemes. But what had they done in veterinary research work? Absolutely nothing. Red water alone cost Ulster £200,000 a year, and it got leave to run its course unchecked. No preventive had yet been discovered, nor was any attempt being made, as far as he knew, in this direction. This was only one of the many virulent diseases prevalent in this county; Blackleg, Felon, and Bloody flux being the most common. The Department, in his opinion, should not risk the uncertainty of grants from the Development Commissioners or any other source, but should lay aside sufficient funds for a veterinary research station at once, even if it was necessary to curtail expenses in other directions.

The Vice-President said the Development Commissioners some time ago were understood to have recommended a grant, but it had never been paid. Mr. McClure's motion was one of the most important that could be placed on the notice paper. Ireland and England, and Scotland also, were sustaining enormous losses from diseases in cattle. Veterinary science knew little or nothing about those diseases. That was rather a humiliating thing to say, but it was time that the truth should be told about it. It was only quite recently that Parliament had done anything to foster veterinary research. Isolation was the only remedy that veterinary science had for Foot-and-mouth disease. Was there any veterinary scientist in Great Britain who could tell them the cause of contagious sterility in cattle or the remedy for it? They knew nothing about Swine fever. Isolation and sanitation was the remedy. Even if they had got £3,000 for veterinary research, which they had not, what was the use of £3,000 in face of the facts? The thing would have to be tackled on a very large scale. He felt the most extraordinary reluctance to talk about funds for this purpose. Ireland contributed her share of the money which the Development Commissioners dispensed, and they were entitled to get their fair share of it back. (Hear, hear.) He did not look upon funds from the Development Commission as any present or gratuity to Ireland. It was nonsense and an insult to the country to be talking about a grant of £3,000 for agricultural research in Ireland. He hoped the Council would take strong ground upon this subject. They should demand to have their fair share of the grant for these purposes, so that their farmers should not be allowed to go in ignorance of the diseases that were destroying their herds.

Mr. James G. Dooley said he had never lost a beast with red water owing to the remedy that he had applied. Milk fever could also be cured.

Mr. M. Slattery, J.P. (Tipperary), thought farmers should be prevented from selling cows that had slipped a calf.

Mr. Campbell said the Department's first demand on the Development Commissioners was for a very big sum and the Commissioners rejected it. They then made a modest claim for £7,000. The Commissioners said they would recommend the Treasury to give a grant of £5,000 if the Agricultural Board gave £2,500. They believed that the Commissioners recommended that to the Treasury, but the Department had got no reply from the Treasury, though they had approached it again and again.

Mr. H. T. Barrie, M.P., said the amount seemed utterly inadequate to the occasion. He thought the Council should make a new representation to the Development Commissioners. If the matter was pressed in Parliament on the Government there would be cordial co-operation from his side of the House.

The Vice-President said the Council ought not to pass Mr. McClure's resolution, which contained a reflection on the Department. The Department had been fighting for this money; they had been engaged in this matter for months and months, but had not got a sixpence yet.

Captain Loftus thought they should apply to the Development Commissioners for at least £10,000 to carry out scientific veterinary research. The work of the Department in Ireland in every branch of agricultural research had been such as to merit the approbation of all fair-minded men.

The Vice-President said the resolution from start to finish was a reflection on the Department not intended by Mr. McClure.

Mr. McClure: No.

The Vice-President said the money should be given for this purpose at once if it was given at all.

Mr. Field, M.P., denied that disease among cattle was increasing in Ireland. Ireland at the present moment was more free from all classes of animal disease than any other country in the world.

After some further discussion, the following resolution, proposed by Capt. Loftus, and seconded by Mr. McClure, was passed unanimously, in substitution for that proposed by Mr. McClure:—

"That this Council considers it a matter of urgent necessity that the Department should be enabled to carry out full investigations into the diseases of animals, which are causing loss to Irish farmers, and they urge that the Department should obtain an adequate sum from the Development Commissioners for the purpose of scientific research, the sum recommended by that body and not yet granted being, in the opinion of the Council, wholly inadequate."

—*The Freeman's Journal*.

Meat Inspection in the City of London.

In his last report, addressed to the Right Hon. the Lord Mayor, Aldermen, and Commons of the Corporation of London, Dr. Collingridge expressed his gratitude for the generous and unvarying support afforded him during the thirty-two years that he has had the privilege of serving as Medical Officer. The importance and responsibilities of the office have greatly increased, and will be heavier in the future, as the value of health conditions on the welfare of the people becomes more and more realised. The report goes on to say:—

"Many important changes have taken place, and in no direction have these been more apparent than in the increased care and attention paid to the food supply. Upon the City, as the Market Authority for nearly one-half of the country, this question has imposed heavy burdens. On the retirement of your late Chief Inspector, the opportunity was taken to appoint a Veterinary Inspector, Mr. T. Dunlop Young, to take charge,

under your Medical Officer of Health, of the arrangements in the various markets, and with his valuable assistance, the system has been remodelled and developed to meet modern ideas. It was found difficult to obtain sufficiently qualified Meat Inspectors, and the system was tried of taking young men, who had received good practical training in butchering and slaughtering, and appointing them on probation for a term of three years, during which time they were to obtain a knowledge of the markets and the meat inspection, and qualify as Inspectors under the Public Health Acts. When fully qualified such probationers are eligible for appointment as full inspectors. The experiment has proved most successful, and the city has now a well qualified staff of Meat Inspectors.

In addition to new and commodious offices, the Corporation has provided a laboratory, fitted with all appliances for bacteriological and microscopical work; a detention room for the examination of doubtful and suspected meat, and a museum for the reception of morbid specimens, for the purpose of instruction. These have all been found of the utmost value in carrying on the work of meat inspection.

EXAMINATION AT TIME OF SLAUGHTER.

Inspection at any stage is useful in protecting the public health, but the only real and scientific system is that which deals with the meat at the time of slaughter, when all the organs are present. The only slaughtering within the city is that carried out at Aldgate, and in order to ensure the inspection of all animals at slaughter it was necessary to modify the then By-laws. The introduction of a Bye-law restricting the hours of slaughter, except on due notice been given, permitted arrangements being made for the presence of an Inspector whenever killing was going on. While in only 40 cases during the last six months was notice given for slaughtering outside the fixed hours, the quantity seized as unfit for food during the year 1911 amounted to 219 carcasses, 120 pieces, and 5,294 organs, as compared with 117 carcasses, 52 pieces, and 1,684 organs in 1910. While the number of animals killed increased by 16.5 per cent., the total number of seizures increased by 203 per cent.

MEAT INSPECTION—"CHAOTIC CONFUSION."

The question of meat inspection cannot be considered as satisfactorily solved until some definite pronouncement binding uniformly with the force of law upon all

authorities is made by the Government. At present each authority interprets the recommendations of the Royal Commission according to its own ideas, the result being chaotic confusion. Science is never at a standstill, and the Royal Commission's advice as to pigs is now 15 years old, and no longer in accordance with the views held by the most advanced authorities in other countries. In no other country is the entire carcass of a pig destroyed on account of a speck of tubercle in one particular gland. This, however, is the course recommended by the Commission. Certainly in cases where the animal is inspected at the time of slaughter (when the evidence of the organs is present, and the Inspector is in a position to give a definite opinion), the existence of any degree of disease should be an indication of the necessity for further examination, and in such cases the backbone should be cut down and the kidneys and other glands throughout the body should be carefully inspected. If there is no further evidence of disease, it would appear to be perfectly safe to remove the part infected (usually the head) and to allow the rest of the carcass to be used for food.

ANTHRAX.

On the 24th May last, one of your Meat Inspectors, while examining some pig carcasses exposed for sale at the Central Meat Market, observed one, which in his opinion presented lesions suggestive of anthrax. Pending definite diagnosis the carcass was carefully isolated. Microscopical examination, conducted by your Veterinary inspector, revealed the presence of anthrax bacilli in considerable numbers, and a subsequent examination by the Assistant Pathologist at the Royal Veterinary College, confirmed this diagnosis, as also did the result obtained by the Veterinary Inspectors of the Board of Agriculture, to whom specimens were sent as required by the Anthrax Order, 1910. The usual precautionary measures were taken, and everything with which the carcass had been in contact was disinfected.

The value of the laboratory, recently established, as an adjunct to the Meat Inspectors' offices at the Central Meat Market, and the advisability of having available the services of a scientific advisor, has been demonstrated by this case, in which a definite diagnosis was made, and the necessary measures taken to prevent any danger of spread of the infection.

Recent investigations have shown that lesions in pigs, that have succumbed to anthrax, may be often so slight as to escape recognition without microscopical and bacteriological examination."

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
IRELAND. Week ended June 1	...	...	...	...	...	...	...	...	Outbreaks 2		2	10	30
Corresponding Week in {	1911	...	...	1	...	...	...	...	...	...	3	...	12
	1910	...	...	1	...	...	...	...	1	...	2	4	142
	1909	...	...	...	...	...	...	...	2	...	4	4	151
Total for 22 weeks, 1912	...	...	2	2	...	...	...	...	...	39	252	121	1150
Corresponding period in {	1911	...	5	6	...	...	...	...	38	...	239	49	828
	1910	...	4	7	...	...	1	2	34	...	328	44	1048
	1909	...	3	3	...	...	1	2	45	...	273	28	354

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 3, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Action on a Certificate of Soundness.

Before Mr. Justice Phillimore, at Oxfordshire Assizes on Saturday, June 8th, F. B. Lynch, Wardington, Banbury, sued Reginald Over, veterinary surgeon, of Rugby, for damages for negligence and lack of skill in certifying a horse as sound, which, in fact, was unsound.

Mr. Cecil Walsh was for plaintiff, and Mr. C. F. Vachell, K.C., and Mr. V. Graham Milward for the defence.

Mr. Walsh, in opening the case, said the horse was bought from a Mr. Newbury, of Byfield, his client having stated that he wanted one that would make a first class hunter, and be suitable for the Bicester and Warden Hill country. On December 4th, 1909, defendant sent a certificate stating that at the request of Mr. H. F. B. Lynch he had examined a chestnut hunter gelding, the property of Mr. Newbury. He further said: "The animal is, in my opinion, sound at the present time: there is a slight enlargement in the curb-place under the near hock, which I consider is a natural formation. I consider the horse has the making of a first class hunter, and one likely to stand work well. It will fill out more in twelve months, and having a short back and powerful quarters it may make 14 stone, but I should put it under rather than over. He moves well, and is a taking-looking horse." In fact, the horse turned out to have a curb, and went lame in consequence. His professional witness would say that there was no such thing as a natural enlargement in the curb-place, as spoken of in the certificate. Therefore, at the time of the examination, the horse was palpably unsound, and no veterinary surgeon should have passed it as sound. The horse, on defendant's certificate, was bought for £150. Plaintiff had since sold it for £36 15s.

Charles Wood Page, F.R.C.V.S., of Banbury, said a curb was an enlargement of the back of the hock upon a particular ligament. He first saw this horse on December 13th, 1909, when it was brought into his yard, and he noticed it had a curb on the near hind leg. On March 8th, 1910, he was professionally consulted, and the horse was then lame. A horse with a curb could not be described as sound. He did not think there could be a natural enlargement in the curb place.

By Mr. Vachell, K.C.: When he first saw the horse in December, 1909, it was being ridden by the groom, and he noticed it was lame then. From Wardington to Banbury would be a distance of about five miles. Witness had not treated the horse. If curb was treated in the early stages it nearly always yielded to treatment. The term used in the profession was "springing a curb," which meant that it came on suddenly.

Walter Green, bailiff in the employ of plaintiff, said when the horse came to the stables in September it appeared to be sound. He noticed a slight enlargement of the hock. The horse went back to Mr. Newbury to be trained, and when it was returned in December it was lame.

By Mr. Vachell, K.C.: During the first three weeks after the horse arrived it was ridden, and it might have been out cubbing.

John Henry Tuck, groom to Mr. Lynch at the time in question, said he remembered the horse being delivered. The morning after its arrival he noticed that it had a slight enlargement underneath the hock. Plaintiff rode the animal and found it very fresh to start with. He sent it back to Mr. Newbury to be properly schooled. When it returned in December he found the animal was very stiff, and the enlargement seemed to have grown. The animal afterwards went lame.

By Mr. Vachell: He did not inform plaintiff of the enlargement. A groom named Holland took charge of the horse on December 20th.

Professor James McCall, F.R.C.V.S., Principal of the Glasgow College, who said he had been in practice for 55 years, stated that he had not seen the horse in question, but he had seen the certificate.

Mr. Walsh: What do you say about it?

Prof. McCall: From reading it, and thinking it over, and also from the remark which Mr. Over has made himself, namely, that there is a very slight enlargement in the curb place of the near hock, which he considered to be natural formation, I formed the opinion that the horse had a curb, and that it had recovered from the strain at that time. It was a four year old horse. Proceeding, the witness, with the aid of a portion of the hock of a horse, explained to the Judge the difference between a curb and an enlargement of the metatarsal bone. A curb, he said, was a strain of the fibres of a particular ligament, and the seat of what was called the curb was at the head of the cuboid. That which caused the strain of the fibres was the tension produced upon the head of the os calcis, and the pull of that tord powerfully upon the ligament running to the cuboid. The enlargement of the metatarsal bone was not a curb; the curb was higher than that.

His Lordship: What do you say, sir, about this?

Witness: If the gentleman who wrote this certificate said there was an enlargement of the head of the external metatarsal bone, then the horse would not be unsound, if natural. That is not a curb.

His Lordship: You mean there cannot be any enlargement in the curb place which is not a curb?

Witness: Any enlargement of that ligament is what we call a curb, and an enlargement of the head of the metatarsal bone is an enlargement of the head of the metatarsal bone, which is not an extension of the ligament.

Mr. Walsh: And being a curb, that is unsoundness?—Undoubtedly.

Witness said that, as a rule, when a horse "springs a curb" he was lame the next morning, and there was a slight puffy swelling, a slight thickening of the ligament. If allowed to rest for a time the lameness would probably disappear and there would be a slight thickening of the ligament, due to the running together of the tissues. The horse might remain not lame for a length of time, and then just strain some fibres again, and that would add to the enlargement. If a horse was rested for six weeks after having sprung a curb, and was fired and blistered and turned out to grass, it would frequently come up perfectly sound and remain sound.

Mr. Walsh: The development of lameness may depend on the degree of work which the animal does?—It entirely depends on the number of fibres which may be torn or stretched at the time.

May it re-awaken?—Yes, especially if it has a curby formation of the hock. A well-formed hock runs in a straight line. A horse with a curby formation of the hock, although it is not a curb, is very apt to spring a curb.

It would be dangerous to certify a hunter as sound which has suffered in that way?—A horse might be fired and blistered, but would not be able to be entered legally as sound.

Cross-examined by Mr. Vachell, K.C.: Your opinion is based entirely on the language of the certificate?

Prof. McCall: It must be, because I have never seen the horse.

Because he says in his certificate that there is a very slight enlargement in the curb place on near hock, you therefore think it must and can only refer to a curb?—That is my opinion.

If he had said, as you say, that there was an enlargement of the head of the metatarsal bone, that would have put it quite clear?—If it had been an enlargement of the head of the metatarsal bone that horse would not have been lame.

Not from that, I quite agree. I daresay you agree that when you have been asked to specially examine a horse it is safer to mention it if there is such a thing?—I certainly would not mention it.

Do you think that when you are certifying, not, you know, to a veterinary surgeon or a professor, but to a country gentleman, do you think it would be any use talking of an enlargement of the head of the metatarsal bone?

His Lordship: He says he should not mention it.

Mr. Vachell: Practically, although it may be a little distance away from the curb place, practically, in popular language, you would say it was in the curb place would you not? Would you expect him to use the words "an enlargement of the metatarsal bone?"—Most assuredly. I would not have introduced the word "curb" at all; I should have said an enlargement of the metatarsal bone.

His Lordship: It is no use, in dealing with a country gentleman, to say that an arm means a leg.

Mr. Vachell: That is hardly a parallel, my lord.

Mr. Vachell: Is there such a thing as a natural formation in the curb place itself?

Witness: A curby formation of the hock is different to a curb.

His Lordship: Do you know of any other enlargement in the curb place?

Witness: None except that.

Mr. Vachell: Is there such a thing as natural enlargement in the curb place?—No.

John Varney, M.R.C.V.S., of Winslow, who said he had been in practice for thirty years, said he examined the horse in the presence of Mr. Wood Page on March 30th, 1910. He agreed that the horse had a well developed curb at that time, and was lame and unsound in consequence. He did not know that there could be anything else but a curb if there was "an enlargement in the curb place." He agreed that a veterinary surgeon, exercising due care, ought to recognise that and define such a symptom or indication.

Mr. Walsh: Ought he to pass such a horse as sound as a hunter?—In a four year old, I should say not.

Mr. Vachell: Did you search for any enlargement of the head of the metatarsal bone?—Yes.

Did you find it?—No, I did not.

Will you undertake to say there was not any such enlargement?—It was my opinion that there was not.

Harold O. Browning, clerk in the employ of Messrs. Warner, Sheppard, and Wade, of the Leicestershire Horse Repository, Belgrave Gate, Leicester, said the horse was sold on the 18th of June last as a horse in dispute with no warranty. The actual sale price was 35 guineas, and the net payment to Mr. Lynch was £34 4s. 3d.

Cross-examined by Mr. Vachell: There was no description whatever of the horse.

This concluded the case for the plaintiff.

THE DEFENCE.

Mr. Vachell said this was a very serious matter for the defendant, who was an experienced veterinary surgeon, and had been in practice in Rugby for a considerable number of years.

His Lordship: These charges should never be made lightly.

Mr. Vachell continued: It was admitted that the horse had a curb, but not at the time that his client examined it. When Mr. Over examined there was an enlargement of the metatarsal bone.

His Lordship: And it was, as possibly might well happen, a second and subsequent accident which brought about the curb?

Mr. Vachell: It was hunted for nine weeks, and there was plenty of opportunity for the horse to spring a curb.

His Lordship: It is what I may call the clumsiness of your certificate.

Mr. Vachell: That is so, but it was not intended for a gentleman who would understand the anatomy of a horse, and therefore to describe it in the way in which the Professor says it ought to have been described would have been useless. In popular language, it is the curb place, although really it is in the immediate vicinity.

Reginald H. H. Over, M.R.C.V.S., of Rugby, the defendant, said he had been in practice since 1894. He made a careful examination of the chestnut gelding, at the request of the plaintiff, at Mr. Newbury's.

Mr. Graham Milward: Was there in fact any enlargement on the curb place?

Defendant: In fact no; it was near the curb place. It was the external small metatarsal bone which was enlarged.

His Lordship: Why small?

Defendant: There are three metatarsal bones, my lord, and it might look to an ordinary man like a curb.

Mr. Milward: Why did you say in your certificate "a very slight enlargement in the curb place?"—To attract the purchaser's eye straight to the point.

His Lordship: What you ought to have said was "a little below the curb place."

Witness said it was to the outside, but the swelling would extend to the curb place.

Mr. Milward: Is that enlargement of the metatarsal bone unsoundness?—No.

Had the horse at that time any curb, or any sign of a curb?—Not the slightest sign of a curb.

His Lordship: It was an accident or a coincidence that the curb formed?—Yes.

Mr. Milward: Was your certificate true and accurate, to the best of your knowledge and belief?

His Lordship: It was not accurate, but not materially inaccurate.

Witness said that he met Mr. Lynch on subsequent occasions with reference to other horses, and he received no complaint at all about the horse in question being unsound. He had an extremely fussy sort of letter from him on October 22nd thanking him for his services. The first complaint he ever heard was the letter he received from Messrs. Stockton on April 8th, 1910. On April 15th he went and examined the horse in company with Mr. Henry Lepper, of Aylesbury who, unfortunately, was laid up now with a fractured arm and could not get to the Court. He found a slight curb there then, but the swelling of the metatarsal bone was quite plain. The horse was in poor condition, as if he had been worked a lot. On the 18th of June the horse was bought in for him at Messrs. Warner, Sheppard, and Wade's, and it was then going quite sound. The sire was a thoroughbred horse, and the dam was in the Hunter Stud Book.

His Lordship: Was the curb still showing?

Defendant: A trifle, my lord.

Mr. Milward: What did you do to the horse?—I fired it, I thought it was a valuable horse, and I did not think it desirable to miss any chance of making a good one of it. Defendant, continuing, said he fired the horse on June 25th, and on July 2nd it was sound. He sold the horse on July 6th to run as a steeplechaser for £90, and £50 in the contingency of winning its first race. On November 5th, 1910, he saw the horse again at Weedon, when it was the property of Mr. Poole. He had with him that day Professor Macqueen and Mr. Hunting. The animal was trotted and cantered on the road and he found the very slightest trace of curb. There were the firing marks, and the outer metatarsal bone still showed the same enlargement.

His Lordship: While it had a curb it was unsound was it not?—While it had a curb, of course.

Mr. Milward: I think it is quite clear that a curb can be sprung in a very short time!—Oh, yes, it can be sprung in a stable.

Cross-examined by Mr. Walsh: Having had a curb, and having been cured, you would still certify it as sound?—If the strain to the ligament is there still, I should not.

On that day when you examined it in the presence of Professor Macqueen and Mr. Hunting you would not pass it as sound?—I should have made a remark upon it.

It is a very curious coincidence, isn't it, that it should have sprung a curb?—I do not know that it is; it is an "unfortunate" coincidence.

Very unusual, isn't it?—Oh, dear, no. That winter was a very heavy winter, and I found four horses with curbs in one stable where a gentleman kept twenty-five horses.

Did you say there was a history of curb behind the horse?—I did not. Mr. Lynch sent such a precise letter that I thought I had better remark upon the very slightest points.

James Macqueen, F.R.C.V.S., Professor of surgery at Royal Veterinary College, Camden Town, who said he had had about thirty-five years' experience, stated that on November 5th, 1910, he examined the horse at Weedon. At that time the animal was "going sound." He paid particular attention to the hocks. On the left hock there was a prominence on the outer side close to the seat of curb. At first sight it looked like a curb, but on further examination he found it was due to an enlargement of the head of the metatarsal bone. He also found a trace of curb just within and slightly above the prominence at the head of the bone.

His Lordship: What do you say about the certificate?

Prof. Macqueen: I formed my opinion about the certificate a year ago or more; I formed the opinion that it might have been improved.

Mr. Walsh: Reading the certificate, without knowing anything else at all, the conclusion you would come to would be, would it not, that there was a curb?—My conclusion was that the certificate was referring to the prominence of the bone.

His Lordship: Yes, now that you know about the prominence. But, if you had got nothing before you but that certificate, what would you say; either the writer means the bone, or the writer means the curb, or the writer did not know how to express himself?—I concluded when reading the certificate that the writer meant the enlargement of the head of the bone.

His Lordship: Before you saw the horse?—Yes. If he had said "at the seat of curb" the description would have been good; it is as close to it that it is impossible to distinguish at a glance because the curb varies in size.

By Mr. Walsh: The distance from the enlarged head of the metatarsal bone to the curb would be a half or threequarters of an inch.

William Hunting, F.R.C.V.S., of 5 Halkin Place, Belgrave Square, S.W., examiner to the Royal College of Veterinary Surgeons, and a past-President of the Royal College of Veterinary Surgeons, said that he examined the horse on Nov. 5th, 1910, at the same time as Professor Macqueen. On the near hock, on the outside, he found a bony enlargement, and within that a trace of curb.

His Lordship: You are quite sure about the bony enlargement?

Witness: Quite. That is the first thing that struck me. Witness added that they had the horse trotted and ridden, and it was found to be sound in action.

Mr. Walsh: This bony enlargement was so noticeable that a man might overlook the curb?—Not if he put his hand on the curb; but if he used his eye merely and

stood a little bit forward he might have thought it was a curb.

His Lordship: If the man had got the idea that it was all bony enlargement, and did not put his hand, might he have thought that it was all bony enlargement when there was a curb?—Yes, he might have thought it was all bony enlargement.

William Dale, M.R.C.V.S., of Coventry, said that on May 18th, 1910, he examined the horse in the presence of Mr. Over, and he found a bony prominence on the outside of the near hock, due to an enlargement of the outer metatarsal or splint bone, and a slight curb.

Mr. Walsh: This was before it was sold?—Yes, I think so, on the 18th of May, at Wardington House.

You didn't point out to anybody the two enlargements? No.

Do you agree with the last witness that the whole thing might be mistaken for curb?—Well, there were two things that I saw quite distinctly.

A slight enlargement in the curb place you would understand to mean a curb?—Yes.

Mr. Vachell: What if you say "a slight enlargement in the curb place considered to be natural formation; does that point to a curb?—Well, no, I should not call natural formation a curb; this was a curb.

Charles Heywood, M.R.C.V.S., of Leicester, said that on April 6th, 1911, he examined the horse for a client who wanted it to go hunting on. He found the hock had been fired and to the outer side of the hock there was a slight bony development at the head of the metatarsal bone. It was rather an exaggerated prominence. There was no trace of curb whatever when he examined the animal.

Mr. Walsh: Still, you could not certify such a horse as sound?—Oh, yes, no curb, going sound. As I have mentioned he had been fired, but this was only in the nature of a blemish on him.

When a horse has had a curb it is liable to wake up again isn't it?—Not once in a hundred times, when a horse has been fired has a curb, I should say, come back again.

John Newbury, horse breeder, of Byfield House, Northants, who bred the horse, said he remembered the defendant coming over to his place to examine the horse for the plaintiff. At that time, as far as he knew, it was not suffering from a curb.

His Lordship: Had you ever known it to have a curb?—No.

Subsequently he had the horse in his possession again for 9½ weeks, and it was hunted, exercised, and schooled. At the end of that time it was re-delivered to Mr. Lynch, and, as far as he knew, when it left his premises to go back to Wardington it was absolutely sound. He did not get a single complaint until he met Mr. Lynch on Marylebone platform at the latter end of March or the beginning of April.

His Lordship: Mr. Wood Page says it was going very lame on December 13th?

Witness: Possibly it might be, but I was never acquainted with it.

Frederick William Sirett, who was in the service of Mr. Newbury from March, 1909, to April, 1910, said he had ridden the horse before it was sold and it was then perfectly sound. He remembered it being sent back again to Mr. Newbury's from Mr. Lynch's and it didn't go well then on its front feet, but after its shoes were altered it went perfectly soundly.

At the suggestion of his Lordship, another witness was called for the plaintiff, namely Mr. Arthur Stockton, Town Clerk and solicitor, of Banbury. In May, 1910, he said he had an interview, without prejudice, with the defendant, when the defendant's solicitor, Mr. Reddish, of Rugby, was present. Mr. Over never said anything about any enlargement except the curb.

His Lordship: When did you realise before to-day that they were going to say there was a bony enlargement?

Witness: I never heard it before, my Lord.

Mr. Vachell: You have come here prepared, have you not, to deal with the question about the enlargement of the bone?

Witness: No, I did not know that the question was to be raised.

His Lordship (to Mr. Vachell): I think it most unfortunate that your client gave the certificate in the way he did.

Mr. Walsh said that what Mr. Over had done in fact—and that was what he complained of—was, he had mistaken a curb for a natural formation, and had passed a horse which had a curb as sound.

JUDGEMENT.

His Lordship said he thought what he could safely decide in this case was that there was such an appearance in this animal's bones that many a competent person would say the horse had an enlargement at the head of the metatarsal bone. Therefore the defendant's explanation that he "meant" an enlargement of the head of the metatarsal bone was quite an impossible explanation, and all that could be said was that to a certain extent the defendant had brought this trouble upon himself by his silly attempt to use what he called popular language instead of something accurate and correct. The positive evidence for the defendant was that there was no curb; the positive evidence for the plaintiff was that there was something which 'Tuck, the groom, and Green, the bailiff, thought was in the nature of a curb when the animal first came into Mr. Lynch's possession. If there was a curb then he thought he would expect the horse to be lame. There was no reason to suppose that there was any visible curb except this slight swelling, and that slight swelling might or might not be that which brought on the lameness. By the time the animal came back to the plaintiff no doubt there was a curb, but that was long after the date when the defendant had certified. What he had to consider was whether there was any real reason to hold that on September 4th, when the defendant certified, there was a curb in the sense that a competent veterinary surgeon ought to have known. The plaintiff had got to make out his case, and he thought, having regard to all that had been said, that he had failed to do so. He thought the defendant had rather brought this upon himself by his carelessness, but he did not think that was a reason for depriving him of his costs.

V.S. Convicted of Fraud.

At Bedfordshire Assizes, Ernest Druce, who described himself as an author and a University man, Amos Wilkinson, a veterinary surgeon, and Ethel May Wilkinson, his wife, were each sentenced to nine months' hard labour for conspiring to acquire goods without paying for them. When the Wilkinsons were living at Newport Pagnell, Druce was known to take parcels of clothes to their house, and it was alleged that there was a conspiracy between the three to defraud tradesmen. Druce ordered goods to be sent to his house at Stantonbury, and when asked for a reference gave the telephone number of the Wilkinsons. In this way goods were supplied on credit at Rugby, Nuneaton, Cambridge, Bedford, Leicester, Luton, Leighton Buzzard, and Dunstable. Some of the articles were found in the house of the Wilkinsons at Nuneaton, where they lived after leaving Newport Pagnell.

In a new statement, Druce declared that he ordered the goods in the expectation of being able to pay for them. He was an author, and had published one book and had another nearly ready. His prospects were at one time very promising, as he expected to become Unionist candidate for Paisley.—*News of the World*.

Prosecution by the R.C.V.S.

At Llandilo on Saturday, June 8th, F. Emerson Thomas, farrier, was summoned by the Royal College of Veterinary Surgeons for unlawfully using titles stating that he was specially qualified to practice a branch of veterinary surgery.

Mr. T. H. Powell, for the prosecution, stated that in an action brought against the defendant in the County Court at Llandilo recently, the defendant filed a counter-claim, which was made out on one of his billheads, on which everything was in very bold type except the line, "No connection with the Royal College of Veterinary Surgeons of England." The heading read: "F. Emerson Thomas, D.V.D. (no connection with the Royal College of Veterinary Surgeons of England), Diploma, Doctor of Veterinary Dentistry: diploma of Veterinary Science U.S.A."

Mr. Hurley, for the defence, submitted there was no satisfactory evidence that defendant had published the billhead.

Deputy-chief-constable Evans said defendant was fined 25s. and costs on July 25, 1904, for falsely representing himself to be a qualified veterinary surgeon, and £5 and costs on April 2, 1906, on the same charge.

The Magistrates said they did not consider this a serious offence, and imposed a fine of £1 and costs, with 10s. 6d. advocate's fee.—*Western Mail*.

The Royal Veterinary College Athletic Sports

Dismal weather sadly marred the enjoyment of these annual sports, which were held at the Tuffnell Park Athletic Grounds on Wednesday. Rain fell persistently during most of the afternoon; and so much had fallen previously that the ground was in almost the worst possible condition for athletics. Two events—the high jump and the tug-of-war—were postponed on account of the difficulty of obtaining a foothold, and will be decided at a later date. Despite the unfavourable conditions, a good muster of students and friends of the College assembled, and succeeded in enjoying themselves wonderfully well. The programme, as is usual in these sports, was long and varied; and the heavy going, which made fast times out of the question, did nothing to lessen the keenness of the competitors. At the close Mrs. Woodruff presented the prizes, which were awarded as follows:

- 100 Yards Scratch Race.—Final heat: W. F. Poulton, 1; R. H. Stalker, 2. Time, 10 4-5ths. secs.
- Throwing the Cricket Ball.—K. S. Simpson, 1. Distance thrown, 95 yards, 6 inches.
- Putting the Weight.—P. R. Viljoen, 1. Distance, 30 feet, 9 inches.
- 220 Yds. Handicap.—W. F. Poulton, 1; E. W. Garry, 2. Time, 23 secs.
- Long Jump.—J. Daly, 1; W. F. Poulton, 2. Distance 18 feet.
- 120 Yds. Hurdles.—W. F. Poulton, 1; B. J. Nicholas, 2. Time, 20 1-5th. secs.
- Sack Race.—H. Chown, 1; R. H. Stalker, 2.
- One Mile Walk.—L. D. Housdan, 1; H. H. Curzon, 2.
- Half Mile Scratch.—K. S. Simpson, 1; S. W. Marriott, 2.
- Obstacle Race.—W. P. Hamlyn, 1; G. H. Bennett, 2.
- Quarter Mile Scratch.—W. F. Poulton, 1; O. Dixon, 2. Time, 56 2-5th. secs.
- One Mile Handicap.—L. D. Housdan, 1; W. P. Hamlyn, 2; E. W. Garry, 3.
- Ladies Race.—Mrs. Sabin, 1; Miss Reynolds, 2.
- Relay Race (inter-class).—Class D, 1; Class C, 2; Class B, 3.
- Consolation Race.—J. E. Barnes, 1.
- College Derby (donkey race).—W. L. Sheffield, 1; G. van de W. De Kock.

Dublin University.

During the last few weeks the attention of our members has been turned upon Dublin by the holding of our Annual Meeting there, and the following note on the antiquity of its educational institutions may be of interest to our readers. It is taken from a long account of Dublin University Medical College, which completed its second century last year, in *The British Medical Journal* of June 8.

"Trinity College was founded by Queen Elizabeth, but centuries before her day several abortive attempts had been made to establish a university in Dublin. As far back as the eighth century Ireland was famed throughout Europe for its schools. To Irish scholars has been ascribed the foundation of Paris and Pavia, and through Scotus Erigena, of Oxford. The ancient homes of Irish learning were laid waste by plundering Danes, and later by invading Anglo-Normans. Early in the fourteenth century an effort was made to rekindle the extinguished light of knowledge, and the first University of Dublin was founded by a Bull of Pope Clement V. in 1311. He established a *studium generale* in every science and lawful faculty, and enacted 'that such as might be thought worthy to be associated with the honour of doctors in any of the said faculties might obtain the licence of any of the said schools for that end.' This Bull would seem to have remained a dead letter, for in 1320 Pope John XXII. confirmed his predecessor's Bull and the statutes drawn up for the earlier foundation. But even then the university was little more than a name, and soon all trace of it was lost, as is

shown by the fact that in 1475 the Dominican Mendicant Friars obtained from Pope Sixtus the Fourth a Bull decreeing once again the foundation of a university in Dublin. The time was not yet ripe, however. But about the middle of the sixteenth century the scheme, which the leading citizens of Dublin had long had much at heart, began to assume concrete shape, and in 1590 a petition was presented by the Mayor and Corporation to the English Privy Council.

"In response to that petition, a charter was granted for a college that should be 'the mother of an university for the better education, training and instruction of scholars and students.' The lands and buildings of the Augustinian Priory of All Hallows, situated outside the city walls, which had become the property of the Corporation on the dissolution of the monasteries by Henry VIII., were chosen as a site, and an appeal for help was issued to all the Irish baronies. In this way funds to the amount of £2,000, equal to about £16,000 at the present day, were collected. The foundation stone of the College, *Sacrosanctae et individuae Trinitatis juxta Dublin*, was laid by the Mayor on March 16th, 1591, and in January, 1593, the College was opened for the admission of students. Born in troublous times, it had in its early years a fierce struggle for existence.

Queen Elizabeth helped it with a fresh endowment of £200 a year in 1598, and James I. endowed the College with land in Ulster, and settled upon it a pension of £400 a year. Its growing prosperity is shown by the fact that, whereas in 1596 the total receipts of the College were under £300, in 1616 they were something over £1,000."

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended June 8	11		11				4	6	32	78	1	84	1249
Corresponding week in	1911	9	12				5	9			2	65	824
	1910	27	29				6	31			5	43	446
	1909	21	39				5	42			5	39	202
Total for 23 weeks, 1912	465		518				78	162	1990	4469	162	1571	19980
Corresponding period in	1911	431	527		1	18	96	257			302	1140	12380
	1910	731	886				163	454			312	612	5662
	1909	651	877				267	1069			453	777	7189

Board of Agriculture and Fisheries, June 11, 1912.

† Counties affected, animals attacked: London 5, Surrey 1.

IRELAND.		Week ended June 8		...	...	...	...	...	...	Outbreaks	1	3	25
Corresponding Week in	1911	...	...	...	...	...	1	1	2	1	2	3	
	1910	...	...	...	...	...	...	...	...	1	5	107	
	1909	...	...	...	...	...	...	...	...	4	6	209	
Total for 23 weeks, 1912		...	2	2	...	...	...	...	39	253	124	1175	
Corresponding period in	1911	...	5	6	...	...	2	3	40	240	51	831	
	1910	...	4	7	...	...	1	2	30	329	49	1155	
	1909	...	3	3	...	...	...	...	45	277	34	563	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 10, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, June 7.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. W. A. Pallin, to be Major. Dated January 6.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Maj. W. R. Walker, retired pay, is appointed Administrative V.O. of a Territorial Division. Dated June 8.

Maj. W. R. Walker, retired pay, is granted the temporary rank of Lieut.-Col. in the Territorial Force, whilst holding the appointment of Administrative V.O. of a Territorial Division. Dated June 8.

June 11.

REGULAR FORCES. ARMY VETERINARY CORPS.

Major C. Rose retires on retired pay. Dated June 12.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. M. E. White resigns his commission. Dated June 12.

OBITUARY.

JNO. RICHARD LEWIS, M.R.C.V.S., Inspector D.A.T.I.,
13 Upper Merrion Street, Dublin

Graduated, Lond : April, 1858.

Mr. Lewis died in May last, at the age of 76 years.

THOS. F. SEXTON, M.R.C.V.S., Kingstown, Co. Dublin.
Edin : Dec., 1911.

Death occurred last month.

THANKS TO ELECTORS.

Dear Sir,

I should be very grateful if you would kindly allow me a little of your valuable space in which to offer my sincerest thanks to all those members of the profession who by their votes and other assistance have returned me as one of their representatives on the Council of the Royal College of Veterinary Surgeons. During my tenure of office it will be my earnest endeavour to work for the general welfare of the profession and so to merit the confidence they have reposed in me.—Yours faithfully,

T. SALISBURY PRICE.

30 Brixton Hill, S.W. June 11

Dear Sir,

Will you kindly allow me through the medium of *The Record* to express my thanks to the Fellows and Members of the Royal College of Veterinary Surgeons for the honour they have conferred upon me in electing me to a seat on the Council. It will always be my endeavour to merit their confidence.—Believe me to remain, very faithfully yours,

JNO. T. SHARE-JONES.

The University of Liverpool,
Dept. of Vety. Anatomy, June 12.

(The following have been unavoidably held over.)

ESPERANTO.

Dear Sir,

In thanking you for your courtesy in reproducing several esperanto originals with translations, I would call the attention of the Committee of the forthcoming International Veterinary Congress in London to the value of Esperanto as a means of international intercommunication, and I would suggest to them the advisability of utilising it as one of the languages for use during the congress and for reproducing the transactions, as it is largely used by veterinary

surgeons in France, Spain, Germany, Austria, Hungary, Russia, India, China, Australia, and other countries, many of whom are unacquainted with either of the present officially recognised languages. It has come into general use in many international scientific associations, and in some the enormous expence of reproducing their transactions in polyglot form has been very materially reduced by the use of esperanto instead.

A timely announcement by the Committee that Esperanto would be recognised as an official language would largely increase the interest of foreign veterinary surgeons in the congress, and also allow ample time for any one who wished to, to learn it before the Congress takes place.—Yours faithfully,

Adelaide, S.A. April 4.

FRAS. EVELYN PLACE.

VETERINARY CINEMATOGRAPHY.

Sir,

I have been interested to read the criticisms on my letter in last week's issue by those two writers who have taken it seriously, as it was intended, and not tried to pervert its meaning. It has apparently been slightly misunderstood. My proposal for Veterinary cinematography was not intended as a substitute for practice and study—which I fully appreciate are first essentials—but as an additional means of impressing methods on the mind in an original and entertaining way, and giving far more illustrations than could be obtained by anyone from text books. It would probably imbue the student with more enthusiasm. I do not suggest that I have given a complete scheme as to how it should be managed either financially or otherwise; the whole thing is an idea in embryo, but personally I am fully convinced that the cinematograph has a large future as an aid to all branches of education. My contemporary student has either utterly misunderstood my article on all points, or his density is affected, with the purpose of scoring at my expense. Taking his points *seriatim*, my article might have been suggested by pictures of bacterial life I saw exhibited as early as 1908, but the report referred to unfortunately escaped my notice. However, that it should have been used by the medical profession seems to be a point in my favour. As regards expense, I agree that there are difficulties; it is always harder to obtain money for intellectual purposes than for those that appeal more directly to the senses! His next question is, I think, absurd. Would any man with a grain of sense ever expect a student to be "Competent in practice" from merely witnessing films? I am very pleased it was only Mr. Reynolds' suggestion and not mine. But I do think the witnessing of such films would be an immense help to a student who had not previously tried the practical part.

Concerning his statement that "the pictures I mentioned mostly illustrate the text books," is not that just the desired object? Only my method would prove to be an accentuated illustration of them, rendering them more life-like and intelligible!

Regarding the "extraction of teeth," the idea of a living picture of the operation would not be to show the actual tooth (which the surgeon himself rarely sees when extracting), but to illustrate the methods of holding the patient and of manipulating the instruments, etc. Then when a student was called upon to do the operation he would mentally see the picture he had previously witnessed, and remember ways and means a great deal easier than he would from lectures on the subject. He next says "from the amusement point of view, twelve out of thirteen pictures I mentioned can be seen at picture shows for the moderate outlay of 3d." Evidently Mr. Reynolds has more experience of threepenny seats than I have; and further, he has apparently forgotten that one is not sure of the kind of picture he will see at a public hall, and that other comic and dramatic pictures have to be witnessed whether one likes them or not.

In conclusion, my humble advice to Mr. Reynolds is to try and criticise in a fair way—looking at both sides of the question.—Yours truly,

HAMILTON KIRK.

Canine Distemper.

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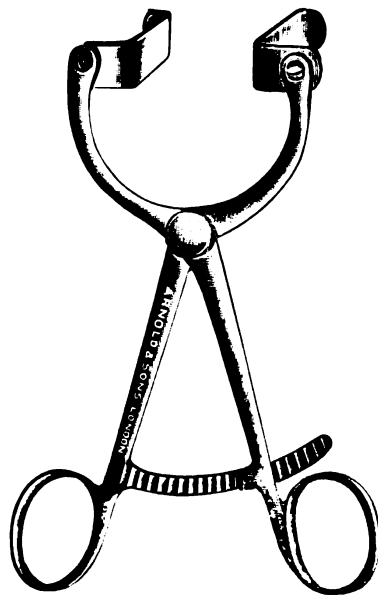
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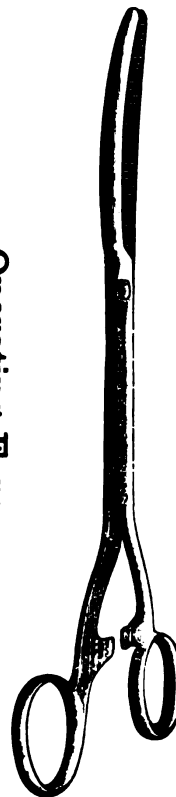


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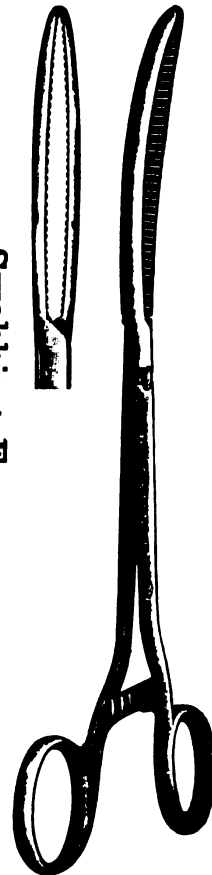


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Registered for transmission as a Newspaper.

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JUNE 22, 1912.

Annual Subscription, 15s.
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These Advertisements will not be inserted unless prepaid, and if replies are to be received at this office an extra sixpence must be included.

Southern Counties Veterinary Society

THE next meeting will be held at the R.C.V.S., Red Lion Square, London, on Thursday next, 27th inst. The President, Mr. Wm. Hunting, F.R.C.V.S., will take the chair at 3 p.m. Business: Routine. Presidential address. Paper etc. J. ALEX. TODD, Hon. Sec.

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CLASS C student (up in July) hard worker, and careful dispenser, desires post in busy country practice during the summer vacation. Former experience and good references. Free July 25th. Address, R. G., Royal Vet. College, London, N.W.

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An EXAMINATION IN GENERAL KNOWLEDGE for intending Students will be held on 5th, 6th, and 7th September.

**Next Session commences
early in October.**

Further particulars may be obtained on application to

ROBERT ANDERSON, S.S.C., Sec.
37 York Place, Edinburgh.

NATIONAL VETERINARY ASSOCIATION,

President: WM. WOODS, F.R.C.V.S., Wigan.

The Annual Meeting will be held at the
TOWN HALL, MANCHESTER,
Wednesday and Thursday, July 24th & 25th
Annual Banquet on the evening of Wednesday, July 24th.

The Provisional Committee have arranged for the following papers:—

Veterinary Education (pre and post-graduate) Maj. Gen. F. SMITH, F.R.C.V.S.

Discussion opened by Prof. SHARE-JONES.

Phalangeal Ostitis,

WM. HUNTING, F.R.C.V.S.

Discussion opened by Prof. MACQUEEN.

Bovine Tuberculosis,

Prof. DELÉPINE

Discussion opened by Prof. AINSWORTH WILSON.

Abdominal Surgery in Veterinary Practice,

Prof. WOODRUFF

Discussion opened by Prof. O'CONNOR.

On the 26th the members are invited by the Lancashire Veterinary Association to an Excursion and Picnic at Rudyard Lake in Staffordshire.

DRUGS, INSTRUMENTS, ETC. Those desirous of exhibiting should apply at an early date, stating space required, to—

G. H. LOCKE, *Hon. Sec. Provisional Committee*, Grosvenor St., Manchester

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POST GRADUATE COURSES.

These Courses in Veterinary Pathology and Bacteriology are conducted under the supervision of the Principal and are specially adapted to the requirements of officers of the Army Veterinary Department, Colonial Veterinary Surgeons, Veterinary Inspectors under the Contagious Diseases of Animals Acts, and Candidates for the Fellowship Diploma of the Royal College of Veterinary Surgeons.

The number of places for these Courses is limited and early application must therefore be made to prevent disappointment. The next Course will begin on Monday, October 7th, and terminate on Friday, November 29th, 1912.

The College Calendar, containing full particulars, will be forwarded on application to

The Secretary,

Royal Veterinary College, Camden Town, N.W.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1250.

JUNE 22, 1912

VOL. XXIV.

THE INTERNATIONAL VETERINARY CONGRESS.

Incidentally the Departmental Report upon Foot-and-Mouth Disease, which we noticed last week, furnishes us with an additional reason for supporting the International Veterinary Congress of 1914. The Report mentions the Congress but once to recommend that it should consider foot-and-mouth disease, and should do so with especial regard to the possibilities of joint international action against it. But the Report also advances several other suggestions for international co-operation against animal disease, and some of these are by no means confined to foot-and-mouth disease. If the various Governments seriously contemplate any such united action, the International Veterinary Congress will be an aid lying ready to their hands—perhaps even as an executive instrument, and certainly as a valuable advisory body.

John Gangee, an Englishman in advance of his time, founded the Congress nearly fifty years ago. His primary object in doing so was to obtain an interchange of views amongst the leading veterinarians of different countries regarding the great animal scourges which were then devastating Europe. Various developments have since taken place. The Congress itself, from a purely veterinary point of view, has greatly expanded and grown. Its large membership now represents all that is best in the profession throughout the world; its range of subjects has been extended to include every department of veterinary work; and its recommendations are already of international weight. With the growth of the Congress to some extent, though far from wholly, as a result of it—has come an increasing recognition by all civilised peoples of the economic importance of veterinary science. Further, there is now a strong and growing tendency towards international conference and co-operation in many directions. It is quite possible, then, that the year 1914 may find many Governments considering schemes of concerted action against animal epidemics. In that event, the deliberations of the International Veterinary Congress may assume an importance such as they have never possessed before. It does not seem impossible that the Congress may receive some permanent function in international co-operation. It is certain that in all preliminary consideration of such co-operation the Congress will have a powerful voice. The next Congress will probably be the largest ever held. It may also be the most momentous one in its effects upon agriculture and commerce; and that possibility adds one to many other reasons why we should support it freely.

PEPTONE POISONING.

Whilst immunising cattle against East Coast Fever last September, in Western Pondoland, I noticed that after receiving an injection of vaccine some of the cattle exhibited most unusual symptoms. Peptone is added to the injection (10 cc. of an emulsion of spleen and lymphatic gland into the Jugular vein) to bring about a positive leucocytosis, thus helping to bring about the development of the specific organism in the animal to be immunised. Some of the cattle immediately after receiving the injection became uneasy, and in two or three minutes fell down. Respirations were hurried, and the membranes were cyanotic. The pulse was very feeble, and violent purging soon made its appearance. The skin above the eyes was puffed and wrinkled, and swellings appeared on various parts of the body, especially were they evident in the region of the vulva in the cows that were affected. There was much skin irritation, the animals after getting up scratched themselves, rubbed against the walls of the kraal, and they evinced a great desire to escape into the Bush.

I could not, at the time, account for the curious symptoms exhibited, and thought they were due to the interference with pulmonary circulation. The symptoms certainly resembled the ordinary form of Urticaria commonly met with in cattle.

Sir Almroth Wright, at a meeting of the T.M.A. held in Johannesburg on Nov. 16th, 1911, discussing Anaphylaxis in man, went on to describe some experiments which had been carried out in connection with the injection of peptone into dogs.

In the early days of Antidiphtheritic Serum, whilst experimenting with some serum at Netley, Prof. Wright found that on the eighth day after the injection the coagulability of the blood was much lowered, and on the tenth day after injection Urticaria developed. This sequence led Wright to recommend the use of Calcium chloride in the treatment of Urticaria.

It has been shown in a paper from Metchnikoff's Laboratory that after an injection of Antidiphtheritic serum the leucocytes increased in cases in which the event was favourable up to the eighth or ninth day, on or about which there was a sudden drop. Wright says that it was this sudden drop in the leucocyte count which led him to look for a parallel decline in the coagulability of the blood.

In certain experiments which have been carried out in regard to the intravascular injection of peptone into dogs, Wright considers there is a good deal in common in the symptoms of peptone poisoning and those of Anaphylactic shock. If the Peptone is run in slowly nothing happens, whilst if

it is run in more rapidly (3 gms. per kilo in one minute), after an interval of two to three minutes the dog begins to suffer from dyspnoea, diarrhoea of a most acute kind sets in, and the blood pressure is found to be so low that the blood only trickles from a severed carotid. If the dog be a white one, a rash is sometimes seen over the anterior aspect of its belly, very like Urticaria, and the blood is found to have lost its coagulability. This loss of coagulability is due to some changes produced by the peptone in traversing the liver, for if peptone be injected into the portal vein and blood is collected from the hepatic artery, it is found to have acquired the power of preventing the coagulability of blood *in vitro*.

We cannot get anaphalaxis with bacterial toxin, so the injection used in the process of immunising cattle against East Coast Fever may be excluded. The curious behaviour of the inoculated animals must have been due to the peptone. A somewhat larger quantity of peptone than usual was added to the injection on this particular day, owing to the peptone having caked in the bottle, and in adding a quantity to the vaccine a large lump fell in and was included in the mixture.

FRANK CHAMBERS, M.R.C.V.S.

OBSCURER CAUSE OF DEATH IN SHETLAND PONY.

A short time since, a pedigree yearling pony, bred by my wife on this farm, was noticed to be showing symptoms of sub-acute abdominal pain; the filly had been depastured, with several others, on some rough ground which was formerly woodland, and it was thought probable that the coarse herbage or the presence of parasites might have occasioned the trouble, though none of the other ponies appeared to be affected.

Treatment accordingly; a full dose of castor oil, followed by 6 dr. Colodyne in warm milk, at intervals of 3 to 4 hours, which appeared to relieve the pain, but death supervened within about 30 hours.

Post mortem examination disclosed no abnormal conditions, except in the mucous membrane of the Colon, which was very extensively ulcerated, the lesions, in outline somewhat ovoid, varying from one-third to one-twelfth of an inch in size. No perforation could be discovered.

In the museum of the Royal Veterinary College there is a specimen of similar lesions from the horse's colon which was placed there by Sir J. M'Fadyean, who considers the causal agent to be the *Bacillus of Necrosis*. I am indebted for the latter information to Professor Wooldridge, to whom I forwarded a part of the colon, and he tells me these are the only two cases he has known.

If any other members have met with similar cases, it would be, I think, of interest if they will record them, as a possible way to the discovery of the source of infection and consequent prevention.

THOS. A. HUBAND, F.R.C.V.S.

Kingsdown, near Sevenoaks.

FRACTURE OF THE OS PEDIS.

Subject.—A six-year-old roan van mare.

When I first saw the mare she was walking lame near hind, the result of having made a false step while at work. The lameness was not then acute, and the mare was able to pull the empty van back to the stable, a distance of a mile.

Next morning she was suffering great pain, and was practically unable to take any weight on the affected limb. The foot was examined and found to be tender about an inch in front of the point of the frog. In the course of a day or two pus formed in this position, and was given vent. Later there was a slight slough of sensitive laminae, but a discharge, smelling distinctly of caries, persisted for some time after this. Eventually the wound healed, but the mare continued to be lame from a low ring-bone which was forming.

Treatment was on the usual lines, the mare being given a loose-box with plenty of peat-moss, of which she took full advantage.

After about three months she was put to light work, which she did well, and latterly she was pulling loads of 30-35 cwt. daily on London streets. I frequently saw the mare at work, and, except for a slight tendency to go on the heel, there was nothing amiss with her action.

After some six months work she one day ruptured her heart while in harness, and I was able to obtain the ever-instructive post-mortem.

J. F. MACDONALD, M.R.C.V.S.

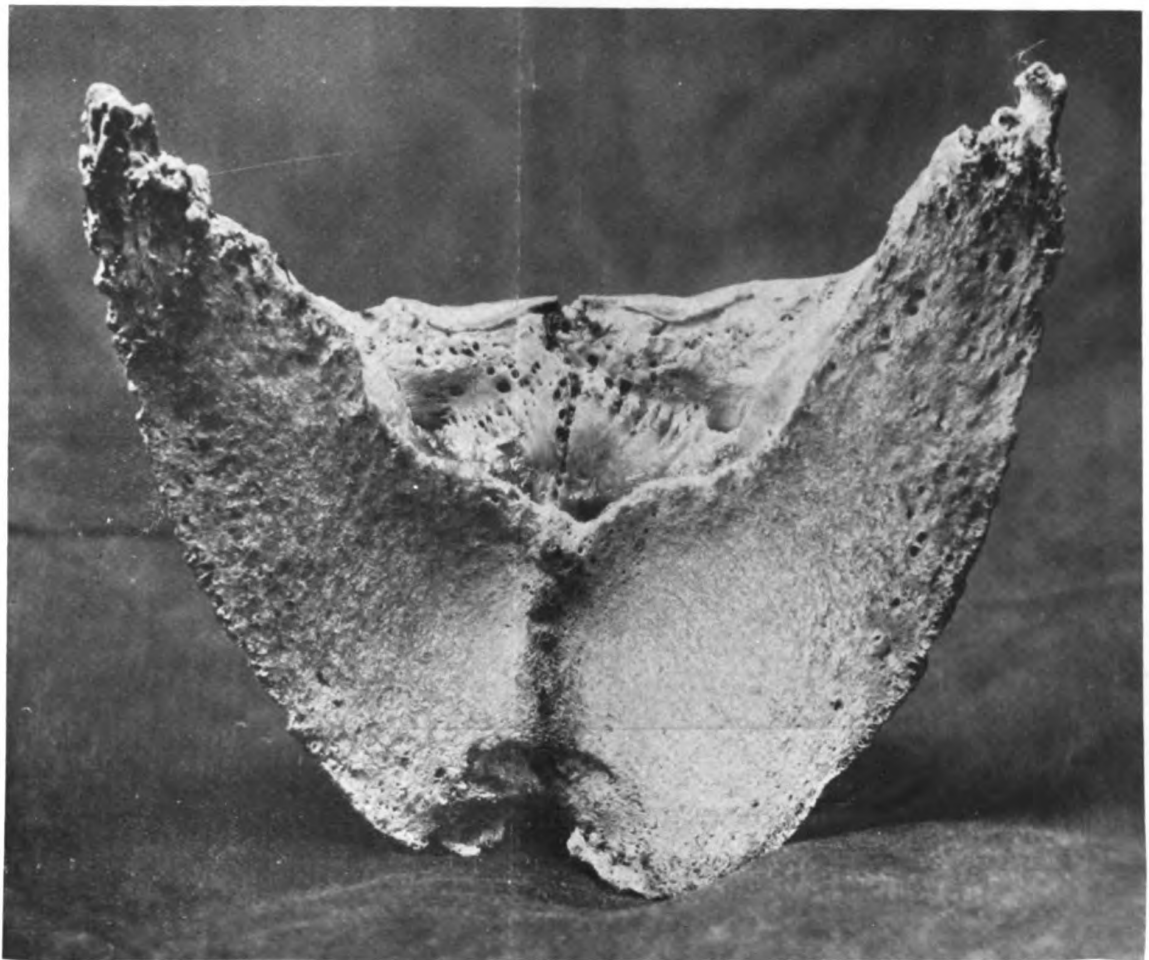
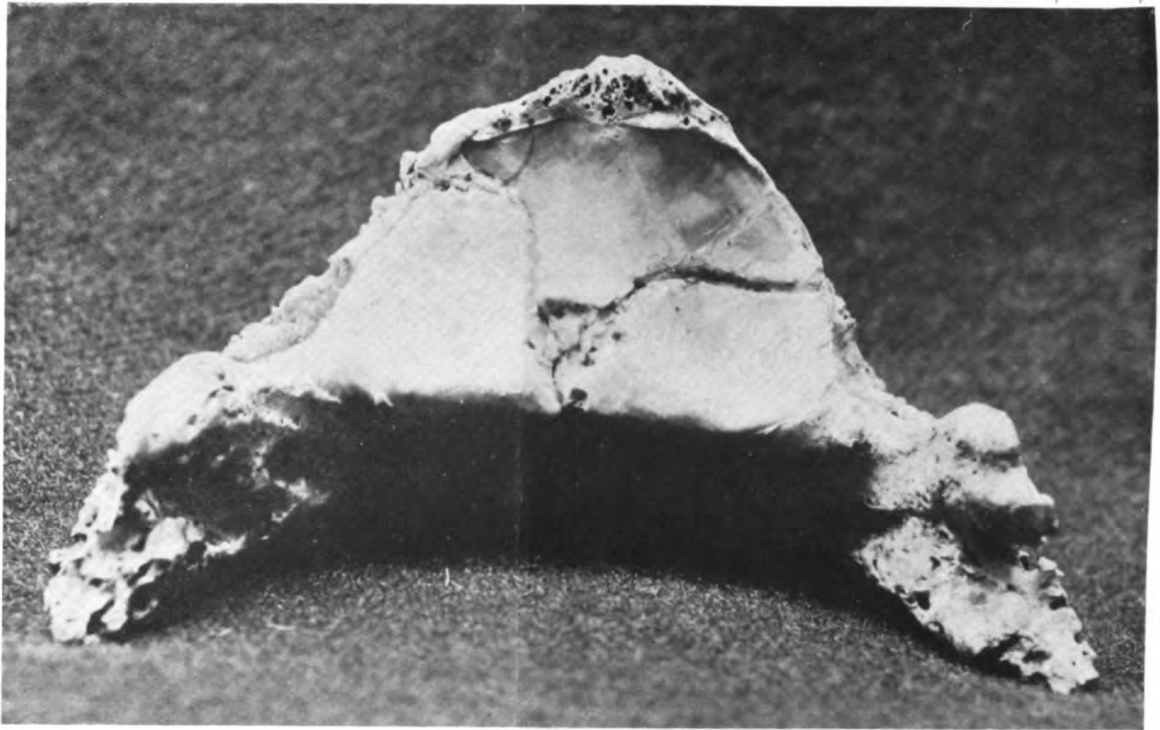
HUMAN TUBERCULOSIS AND ITS RELATION TO TUBERCULOUS MILK.

In placing the following tables before the readers of *The Veterinary Record*, I hope that they may have the same effect on them as they have had on me, namely, to stir them to greater activity, both in the search for and weeding out of the herds of cows with tuberculous udders, and in educating the general public to the dangers of tuberculous milk—and therefore to the necessity of efficient veterinary inspection of dairy cows.

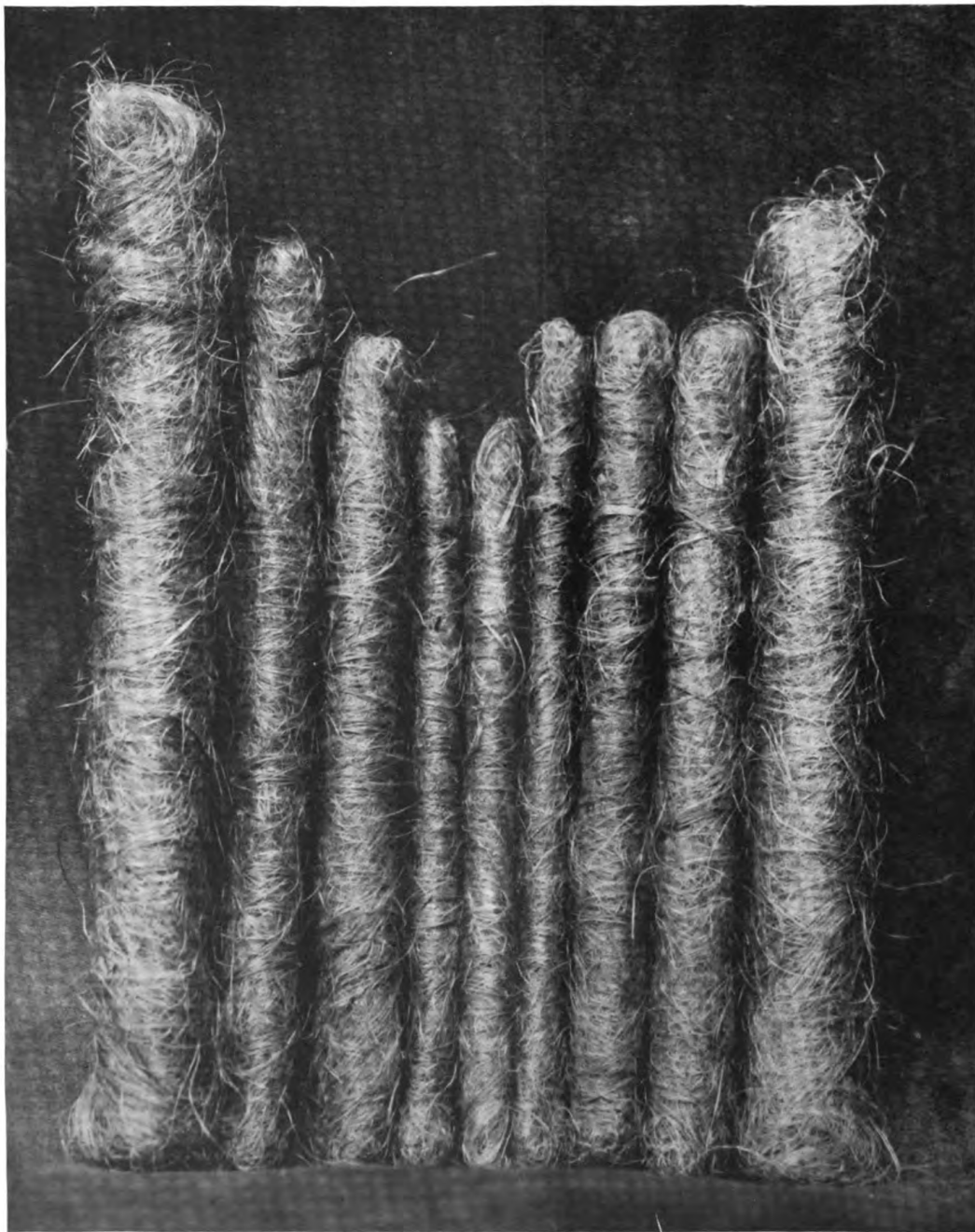
It is said by some people that even if the danger from tuberculous milk is a real one, which they deny, so small a percentage of cases can be traced to that source as to be practically negligible, but I maintain that if only one child per 1000 dies in Great Britain annually from *Tabes mesenterica*, and the source of that infection is Bovine, it is our duty to do all in our power to free our milk from this disease.

I agree with Dr. Leslie Mackenzie, that in the campaign against consumption we must not neglect any of the contributory causes: housing, working conditions, food supply, etc., all must be brought to the nearest state to perfection. "To every man that wants to live, we would offer the chance to live." The following tables are taken from the Report of the Medical Officer of Health of the City of Sheffield for the year 1910.

face p 102



To illustrate note by J. F. Macdonald, M.R.C.V.S.



MR. PILLER'S TREATMENT OF CANKER.

Hard rolled rods of tow of various sizes as used to produce the pressure.
[Full size.]

Tuberculous Diseases : Mortality during 10 years 1900-10.

Disease.	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Tuberculous Phthisis	529	580	491	573	536	490	452	524	564	524	457
„ Meningitis	92	132	111	140	126	94	88	115	100	88	74
„ Peritonitis	7	15	32	48	47	50	36	42	48	26	40
„ Enteritis	16	25	16	14	11	5	8	11	9	13	12
Tabes Mesenterica	68	65	43	39	29	24	24	10	16	12	7
Other forms of Tuberculosis	40	32	57	72	48	38	48	40	48	39	36

Examination of cows for Tuberculosis of the Udder in following up Tuberculous mixed samples.

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Country cows	—	75	622	170	231	279	783	544	451	760
Tuberculous	—	2	6	1	9	10	15	13	18	29
City Cows	1067	2264	672	1774	1521	1434	8808	13,587	13,958	9573
Tuberculous	5	7	3	8	4	2	29	34	42	22

It will be noticed that although the deaths from phthisis have not materially decreased during the period, there has been a steady decline in the number of deaths from Tabes mesenterica, while there has been a steady increase in the number of cows examined, and the number of tuberculous udders found.

It may be coincidence, but it is rather striking that in 1906 there were 24 deaths from Tabes mesenterica, while in 1907 there were only 10 deaths from the same cause, and this fall coincided with the large increase in the number of cows examined in 1907 as compared with previous years, and the great increase in the number of cows found affected in the udder from 12 in 1906 to 44 in 1907.

I am not prepared to go so far as to say that the eradication of the tubercle bacillus from milk will bring the number of deaths from Tabes mesenterica down to zero, but I am satisfied that every cow with a tuberculous udder taken away from the milk supply will help in gaining that desired end.

ERNEST J. BURDRED, M.R.C.V.S., D.V.H.
Sheffield.

VICTORIA VETERINARY BENEVOLENT FUND.

The fourteenth annual meeting was held in Dublin on the 5th June, immediately after the annual meeting of the Royal College of Veterinary Surgeons. Mr. S. H. Slocock, F.R.C.V.S., Vice-President, occupied the chair, and there was a large attendance.

CORRESPONDENCE.

The Hon. Sec. (Mr. W. Shipley, F.R.C.V.S.) read a letter from Mr. J. J. O'Connor, Hon. Sec. of the Veterinary Medical Association of Ireland, stating that circulars relative to the Victoria Veterinary Benevolent Fund were brought before the meeting of Council of the V.M.A.I. The circulars were distributed among the members present, and the following resolution was passed, to be approved of at the general meeting of their Association:—

“The Council of the Association recommends that in future, and until the resolution be rescinded, a sum of two guineas be subscribed annually to the Victoria

Veterinary Benevolent Fund. The Council further wishes to direct the attention of the members of the profession in Ireland to the aims and work of the Benevolent Fund, and to recommend the Fund to their charitable consideration. (Applause).

A letter from Mr. M. Hedley of the Department of Agriculture and Technical Instruction for Ireland (Veterinary branch) nominating Prof. Mettam as a candidate for election on the Council of the Benevolent Fund. He thought that it might be of advantage to the Fund if the system of election of candidates could be transferred to the general body of the members, as done in other associations. He believed that cases might be stated, and it would not be necessary to mention the name of the person who is candidate for any benevolence, but all the circumstances connected with the claim might appear on the voting paper. He was inclined to give a life vote for the benefit of the President of every Association contributing a lump sum of £10, and an annual vote for every half-guinea subscribed. This scheme would admit of extension. The payment of a half-guinea per annum, without having any interest in what took place subsequently, kept contributors more or less outside the Association, and his suggestion was that their interest should be kept alive in the Fund by giving them something to do, such as voting for whom they considered the most deserving candidate, or the largest number of deserving candidates that the Fund would be prepared to assist in connection with any particular election.

The CHAIRMAN said the next business was to consider the Council's report, and in introducing that, he wished to say that they held the meeting there that day because they wanted to have as big a gathering of veterinary surgeons present as possible. They particularly wished to come to Ireland so that members of the profession in Ireland might get to know of the work done by the Fund. They wanted increased membership, increased subscriptions, and increased good work. They, in England, are conversant with the traits of the Irish character, and one of them is benevolence. They were sure that the Irish veterinary surgeons were anxious and desirous that the widows and orphans of their profession should be provided for to some extent. The position of Hon. Sec. and Treasurer was well filled by Mr. Shipley, and everyone would admit that since Mr. Shipley undertook those duties the Fund had done splendid work. (Applause). Mr. Shipley availed himself of every opportunity of increasing the membership

and the subscriptions. Of course, with that they had increased expenditure, but one great recommendation he had heard Mr. Shipley make, and he (the Chairman) was pleased that Mr. Garnett was in accordance, was that they should spend more money. They then wanted increased subscriptions, and they wanted the members to be more enthusiastic in the cause. In the case of Ireland the membership was very poor at the present moment, but he would like to say that even if they had no subscribers in Ireland and a case came forward it would be treated just the same as any other. (Hear, hear). It was new members and greater enthusiasm that was required.

Mr. HOWARD proposed the reception of the report, which was seconded by Mr. Banham, and passed.

The report was then adopted.

[For details of Annual Report, see our issue of June 8, p.p. 776 and 778].

Mr. HENNEY (Dublin) said as yet he was not a member of the Fund. He thought they had not paid attention to recruiting members, and that they should form a small committee here to advise them. It would be better for their objects if they had the balance on the other side of the account. He thought a charity never progressed unless it was in debt, and the bigger the debt the more subscriptions they would receive—(Laughter)—and the greater the efforts made by those interested to take them out of it. (Applause).

Mr. McKENNY said he thought that really the subscriptions were the first thing to be considered, and he did not agree with Mr. Henney about running into debt. He was of the opinion that it was a very deserving cause, and that they all should support the fund. Their first duty was to get subscriptions and not so much members, as was said.

Mr. SHIPLEY, who was received with applause, said he would like to refer to the balance-sheet and the balance being on the wrong side. He wished to say that that was the first year he had been secretary to the Fund. There was a ridiculous way in which the balance-sheet used to be prepared, and he wanted to point out that the balance of £72 which was at their credit side would have to last them this year. He had to make it last nine months, so that on the 31st December they would be in debt again. Of course they must keep a little balance in hand, for, now and then, they had to write a cheque for £10 or £20. At the present time they had 220 members, but then their expenditure had increased as they would see to £153. If they could, they would like to give their pensioners a sum of 10s. a week each, but then they would need £360 a year. What they want now was to have sufficient subscriptions so as they need not rely on their invested funds, which might be used for other things as they cropped up. In Ireland in a comparatively short time the subscribers had increased from four to seven. They were now spending over £50 a year in Ireland, which indicated they should have many subscribers there alone. Letters were being constantly received stating that the writers had only just heard of the Benevolent Fund. He earnestly appealed to all members of the profession to help. Of course they wanted subscriptions, and it was nonsense to think that one man could do the work unless the other persons took an interest in it. He trusted that their visit to Ireland would result in many Irishmen joining. (Applause).

ELECTION OF OFFICERS.

Council.—The following were re-elected: Messrs. F. W. GARNETT, F. L. GOOCH, T. G. HEATLEY, F. HOBDAV, H. A. McCORMACK, Sir JOHN M'FADYEAN, and W. J. MULVEY. Prof. METTAM was elected in the place of Prof. J. Macqueen who had retired.

Trustee.—Mr. F. W. GARNETT was elected in the room of the late Mr. E. Coleman, on the motion of Mr. Roberts, seconded by Mr. Banham.

Auditors.—Messrs. Joseph Woodger, M.R.C.V.S., and Albert E. Lark, chartered accountant, were re-elected for the ensuing year.

The CHAIRMAN said it was proposed to make the financial year end at the 31st of December instead of March, so as to coincide with the period for which subscriptions are paid. The subscriptions were due on the 1st of January and the balance-sheet made out on the 31st of March; by altering it he believed it would bring the matter into line for the twelve months.

Mr. ROBERTS proposed a resolution effecting this alteration and said it was purely business matter.

Mr. SUMNER seconded, the motion was adopted.

The CHAIRMAN said the next business was to delete Order 5 in Rule 15. It was not necessary to elect a Trustee annually. By deleting that Order they would save a lot of money.

Mr. GARNETT proposed a motion deleting Order 5, the "Election of Trustees," from the order of business at the annual meeting.

Mr. ROBERTS seconded; the motion was passed.

The CHAIRMAN said it was proposed to make Rule 11 clearer by inserting after the word "subscription" the words "or is a life member," so as the Rule would read as follows: "Any member of the Society having paid his current subscription or is a life member shall be eligible for election to the Council."

A resolution embodying this alteration was passed on the motion of Mr. Howard, seconded by Mr. McKenny.

The CHAIRMAN said the last alteration was in Rule 29, to delete the word "May" and add in its place "April," so that the accounts could be placed before the Council before the annual meeting.

This was proposed by Mr. Roberts, seconded by Mr. Banham, and passed.

Prof. METTAM proposed a vote of thanks to the Chairman. Mr. Banham seconded and it was unanimously passed.

This concluded the business of the meeting.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

The quarterly meeting was held in the XL Café, Dublin, on Wednesday night, May 15th, when the President, Mr. Patrick J. Howard, occupied the chair, and the attendance included Lt. Col. J. Moore, F.V.O., Prof. A. E. Mettam, Messrs. J. B. Dunlop, J. McKenny, P. D. Reavy, W. Cargill Patrick, A. Watson, J. B. Hare, L. M. Magee, J. S. McCann, F. C. Ryan, W. H. Wilkinson, J. Doyle and Prof. J. J. O'Connor (Hon. Sec.) Visitors, Major Higgins, A.V.C., Capt. Deacon, A.V.C., and Lt. Hogg, A.V.C.

The minutes of the last meeting were taken as read and were adopted on the proposition of Mr. O'Connor, seconded by Mr. McKenny.

NEW MEMBER.

Mr. T. BOUCHIER HAYES, of Rathkeale, Limerick, was unanimously elected a member of the Association.

Letters regretting inability to be present at the meeting were received from Col. Steel, Sir Chas. Cameron, Prof. Craig (Hon. Treas.), Prof. Perroncito, Messrs. A. Dobbey, J. A. Thompson and Chambers.

PRESIDENT'S ADDRESS.

P. J. HOWARD, M.R.C.V.S., Ennis.

Gentlemen,—Custom has ordained that it is my privilege, as your newly-elected President, to inflict you with an address, and custom has further happily arranged that you are not allowed the privilege of a grumble. It is not my intention to abuse the privilege either by neglecting it or by trespassing too much on your patience.

First of all, permit me to offer you my very sincere thanks for the honour you have conferred on me by electing me President of this important Association. It is the greatest compliment the Association can pay to any member, and I assure you I thoroughly appreciate that compliment, for I am fully aware of my own incapacity for such a position, and it is only with your kind indulgence and co-operation that I can hope to discharge the duties of President. I may claim that as a humble country member I have endeavoured to do my little part towards the Association, and now I take it as a great honour and a great compliment to be called on to fill that post which has already been adorned by distinguished men—men whose names will ever stand out in the history of the veterinary profession. I am proud to receive that honour, and especially proud to be the second country practitioner elected President of this Association.

But, gentlemen, I am a little anxious as to the responsibility of the position, and I would earnestly ask each and every member to do his level best to make this year a successful one for our Association. You can do so by making an effort to attend the meetings by providing matters for discussion and by taking part in the discussions; and further by inducing new members to join. I hold that it is the duty as well as the right of every member of the profession to take an interest in the life and welfare of the profession, and the easiest and surest way for him to do so is by being a member of a Veterinary Association. Somehow, I feel sorry for those men who, either from absolute carelessness or sometimes from an exaggerated notion of their own importance, will not be members of an association. This Association offers many advantages; and not the least that of making and meeting friends. The meetings are arranged at convenient times, and are always a source of knowledge to those who attend. The man who thinks he has no more to learn is a fool, and the man who really has a lot of useful knowledge ought to have the courage to come and give his brethren in the world the benefit of it.

Now the Associations here have already done good work for the profession, but much more remains to be accomplished. I feel rather optimistic about the future of our profession in Ireland. Happily we can observe that in matters agricultural the country is steadily progressing. Cattle and horses are as valuable as ever, in fact more valuable than they have been for years. There is greater attention being paid to the breeding and rearing of live stock, the people are better informed and better educated on such matters, and the result must inevitably be that they will avail more of expert help. Through the medium of the Veterinary Dispensaries in the West of Ireland the very poor are being encouraged to avail of veterinary aid.

The veterinary surgeon himself should take every opportunity of educating his clients and the public to understand that his help is valuable. He should endeavour at all times to adopt scientific methods in dealing with his patients, and in this connection I would like to see the use of anaesthetics become more general in our work. I am convinced it will do more to eradicate quackery than a special Act of Parliament.

With the spread of education there will be many appointments in connection with Public Health, and if for no other reason than to organise for the purpose of securing such appointments as are ours by right, every member of the profession should be a member of an association. In this connection we must fight for our rights. We have already been humbugged by that moribund Institution the Local Government Board, which, true to its historical traditions, has broken the promises made to us in connection with the working of the Dairies order. Thank heaven there appears to be some

hope that the L.G.B. will soon get a turn in the steriliser from which it is likely to emerge ridden of those pernicious affections that have long rendered it a curse rather than a blessing to the country.

Latterly there has been some shuffling with the educational standard, and the course of studies for students. I think it a retrograde step to refrain from adopting the highest standard of education. We want the best brains and the best men if we are to keep pace with the times and if we are to uphold our claim to recognition with the medical profession.

There are many other matters of importance that I would like to refer to, but time will not permit, and I know you are anxious to have Col. Moore's paper. There is just one matter that I must refer to, and that is the annual meeting and dinner of the R.C.V.S., which takes place next month for the first time in Ireland. I have already said that the Associations on this side have done much for the profession, and this will be an opportunity to do more. Every V.S. who can should attend the meeting and dinner, and endeavour to make it a success.

Permit me again to offer you my thanks for the honour you have done me, and to again express the hope that with your co-operation my year of office may be a successful one. I congratulate our new secretary on his choice of meeting place, and I hope I have not tried your patience too much with my remarks.

Prof. METTAM proposed a vote of thanks to the President for his address. He said that what they had heard was stimulating and interesting, and he hoped that in the fulness when the Local Government Board "went through the steriliser" that the veterinary profession would receive its due merits.

Mr. PATRICK seconded the motion which was carried with acclamation.

The PRESIDENT acknowledged the vote of thanks.

ACCOUNTS.

The following accounts were passed:—Printing, £1 11s. 6d.; Subscription Veterinary Benevolent Fund, £2 2s.; Reporter's fee, £2 2s.; Room in XL Café, 5s.

MINUTES OF COUNCIL MEETING.

A meeting of the Council of the Veterinary Medical Association of Ireland was held in the Royal Veterinary College of Ireland on Wednesday, April 17th, at 5 p.m. Present: Mr. Howard (President) in the chair; Prof. Mettam, Prof. Craig, Prof. O'Connor; and Messrs. Lambert, Dunlop, Holland, McKenny, Healy, Wilkinson, and Hedley.

The minutes of the Council meeting held in January, 1912, were read, confirmed, and signed.

Letters were read from: Mr. T. Bouchier Hayes, of Rathkeale, Co. Limerick, seeking election.

From Mr. W. Shipley, Hon. Sec. to the Victoria Veterinary Benevolent Fund, enclosing circulars relative thereto, and after some consideration Prof. Mettam proposed, and Mr. Mr. J. F. Healy seconded, that "The Council of the Association recommends that in future, and until this resolution be rescinded, a sum of two guineas be subscribed annually to the Victoria Veterinary Benevolent Fund. The Council further wishes to direct the attention of the members of the profession residing in Ireland to the aims and work of the Victoria Veterinary Benevolent Fund, and to recommend the fund to their charitable consideration. This was carried unanimously.

Apologies for non-attendance were received from Col. Steel and Messrs. Reavy, Chambers, and W. C. Patrick.

After some discussion it was decided that three members of the V.M.A.I. and the Hon. Sec. be delegated to represent the effective members of the V.M.A.I. on the

Council of the National Veterinary Association, viz.:—Mr. Howard (President), Prof. Craig (Hon. Treas.), and Mr. J. McKenny.

The date of the general meeting was decided for May 15th at 7 o'clock. The place of meeting and selection of reporter to be left in the Secretary's hands. It was announced that Col. Moore, P.V.O., would read a paper on "Wind-sucking and crib-biting."

The following accounts were passed for payment. Gresham Hotel, 15s.; reporter, £2 2s.; and the Treasurer was instructed to pay accounts of Messrs. Carlyle and Dungan, solicitors, £4 9s. 8d. and £6 8s. if after investigation he finds that they have not been paid.

Mr. T. B. HAYES was proposed by Prof. Craig and seconded by Prof. O'Connor for election at the next meeting.

Prof. Mettam mentioned that the annual dinner of the Royal College of Veterinary Surgeons would be held in Dublin this year, and requested that a Committee be formed to make arrangements in connection therewith. The following were elected:—Messrs. Hedley, Daly, Kerr, McKenny, Allen, R. H. Lambert, Dunlop, Healy, Moffett, Jordan, and Winter.

ROYAL COLLEGE OF VETERINARY SURGEONS ANNUAL DINNER.

Prof. METTAM, speaking with regard to the dinner of the Royal College of Veterinary Surgeons, said that everything promised a successful meeting. At the present time they had about 60 members of the profession coming, and about half of these had promised to bring guests, which meant 90, and there would be at least a dozen or more guests of the profession. In round numbers there would be at least a hundred, and probably there would be 120 or so, because there would be a contingent from across the Channel. Another point of interest was that the previous Wednesday he saw the President of the College of Surgeons and asked if it was possible to hold the dinner in the hall of the College of Surgeons, which would be preferable to holding the dinner at an hotel. He was received very cordially, and was told that there was no doubt at all so far as he was concerned. He expected to hear officially from the College of Surgeons that they had acceded to the request. He hoped the profession would appreciate the honour they had done them in granting permission to hold the dinner there in the spirit it was given, because they had been met admirably. He hoped the annual meeting in Dublin and the dinner would be highly successful. He had approached the Lord Lieutenant to see if he would come, and he had said he would be only too happy to do so. (Applause). Everything pointed to their having an interesting meeting, and he would be sure it would be to the honour and welfare of the profession. (Applause).

"CRIB-BITING" AND "WIND-SUCKING."

By Lieut.-Col. J. MOORE, P.V.O. Irish Command.

Mr. Chairman and Gentlemen,—I perhaps must apologise for bringing before you a paper on such an apparently simple subject as "crib-biting" and "wind-sucking," but I do so for two reasons. First it serves as a good field for discussion in these our periodical gatherings, and second, it is so prevalent in the Army that, in addition to the opinions of veterinary officers in this Command, I am desirous of outside opinions on it with a view to its mitigation if possible.

I am afraid I have nothing particularly new to adduce with regard to the subject, and I must, necessarily, approach it from an Army standpoint.

It is unnecessary for me to explain what these two forms of vice are. It will suffice to say that the terms

"crib-biting" and "wind-sucking" are practically analogous. Both might be included under the term "wind-sucking," and be grouped into three classes according to manifestation, viz.:

- (a) Wind-sucking where the animal catches hold of the crib or manger or other article with its teeth (true "crib-biting").
- (b) Wind-sucking by laying the chin on the manger.
- (c) Wind-sucking pure and simple, without any of the complementary expedients mentioned in (a) and (b).

It seems extraordinary that we should meet with so much of it in the Army at home. I am convinced that it is more prevalent in Army horses of the United Kingdom than in horses in civil life. It is proportionately more common at home than in our Army in South Africa, and very much more so than in our Army in India, where in British Service units with a total average strength of over 20,000 horses, only one case has been recorded from 1908 to 1911. We do not appear to meet with it amongst mules of our Army abroad, and I cannot call to mind a case in that animal, nor in the ass.

This variation of incidence in respect to different countries rather foreshadows some particular cause or circumstance under which it is contracted, and it is cause or circumstance which I especially wish to probe this evening.

In the Irish Command, out of a total strength of about 4500 horses, 31 horses were cast for this vice during last official year ending 31 March, 1912, and we have a record of 135 serving subjects of it.

Some time ago I instituted enquiries to determine the reason of its prevalence in such numbers, and I have had excellent opinions and have received great help from the officers serving under me towards elucidating the cause. I shall be very pleased to gain further enlightenment from you, and the benefit of your experience will be much appreciated. I may say that I have already elicited the interest of Prof. Mettam, Prof. O'Connor and Prof. Craig in the matter, and have shown them some fair specimens of wind-suckers of different types.

For purposes of discussion, I propose to place the subject before you under the following headings, dilating on each as I go along:—(a) Cause of the vice; (b) if indigestion is a cause or result; (c) if heredity plays any part in cause; (d) if wind is swallowed or not; (e) to what extent one animal learns it from another; (f) what relation stable noises bear to it; (g) what can be done to prevent or minimise it; (h) if more frequent feeding, or a different system of feeding will prevent or minimise it; (i) what stable devices can be adopted to check it; (j) any information gained from your experience of it.

I have had copies of these headings printed so that they may readily be referred to in consideration.

Cause of the vice. Here is the crux of the whole matter. Opinion as to the real cause is very indefinite and varied. If ideas of cause were more certain, we should be better able to defeat the vice, and in this connection it must be remembered that in the Army at least it is much more important to prevent the occurrence of disease and disability than to remedy what has occurred.

There can be no doubt that *Idleness* greatly predisposes to the habit, and to this the greater number of cases in Army horses over horses in civil life may be rightly attributed. During the winter Army horses have little work to perform; at other times of the year training and work are chiefly done in the morning. There is therefore a long period of the 24 hours of the day passed in the stable. A daily diet of 10 lb. of grain and 12 lb. of hay, and particularly the manger diet consisting of grain and perhaps a very little chaffed hay, is soon consumed. Tied up by the head against a blank wall, the

rest of the time is to the majority of animals monotony and boredom, and

"Satan finds some mischief still for idle hands to do."

More or less intimately associated with the vice in the stable is the crib or manger, which must not pass without consideration. It is popularly believed that in moments of idleness, mischief, or during grooming, especially in young horses, the manger is played with or bitten, and that the seeds of crib-biting and wind-sucking are thus sown. But I need not tell you that the manger or other article to catch hold of is not an indispensable factor in the cause, or that it is essential in the role of a wind-sucker to be first a crib-biter. The purpose of the manger is to make the act easier. In Army stables at home the manger is 3 feet 7 inches from the floor, and the height is most convenient for the act.

It is instructive to note that in India where the vice is much less common the managers are of mud, and they are usually lower than in this country. A factor of actual crib-biting is therefore removed. Added to this the stables in India are open and bright, horses see more of, and have more intercourse with each other, the dullness of "the long, long Indian day" being thus to a great extent relieved.

It is usual to find more wind-suckers in units of small military stations where less work is performed than in large stations, and we have less of the vice in Cavalry than in Artillery. Castings for the vice have a bearing on the variance in individual stations and units to some extent, but still it is generally conceded that under circumstances of more regular work and less time spent in the stable, fewer wind-suckers are to be found.

Some of my Officers have sent me notable instances of idleness as a cause, and I cannot do better than quote them:—

Captain Conder says: "I have myself owned two bad wind-suckers. The first, an English hunter took to the habit whilst idle on account of lameness. I had owned the horse three months, and whilst doing his three days a fortnight regularly he showed no signs of wind-sucking. The horse could not have learned the habit from another, as he was in a box by himself. When he came into regular work again, although he occasionally wind-sucked, he would often go for several days without anyone seeing him do it. A neck strap was used in this case, it was difficult to keep in place.

"The second, a Waler pony, was the worst case I have ever seen. When I purchased it, it was in a shocking condition, and did nothing but wind-suck. I placed the bit previously mentioned (hollow bit with holes in the tube) in its mouth, and after a period of four months was able to discontinue using the bit, and during the time—about three months—I continued to own the pony it never again wind-sucked. The pony is now in perfect condition and doing regular work. The previous poor condition was due to improper treatment after recovery from Biliary Fever, aggravated by wind-sucking. The man I sold the pony to informed me that it took to wind-sucking again during the 'rains,' due I think to the fact that there was no polo and the pony was idle. This pony was kept with four others, none of which developed the vice. There was no history of the pony having ever been near a wind-sucker."

Captain Hodgkins remarks: "No further proof is needed than the comparison between Army horses and a large body of industrial horses, *e.g.* Railway Companies, amongst which latter there are few cases."

Lieutenant Hogg mentions the occurrence of it amongst pit ponies thrown out of work when pits are closed down.

Concomitant with idleness, *Imitation* is generally ascribed to be a cause, or at least to be a commencement of the vice, which once learnt is continued by the

subject. We all know how prone some horses are to follow a lead given by one of their kind. For instance, I remember at a halt during manoeuvres many years ago, the horses of a whole Cavalry Brigade blowing their noses; beginning in a few horses of the Regiment to which I was attached, it was passed on to the whole brigade.

While fully acknowledging, therefore, the possibility of one animal learning the vice as a trick from another animal, and with due deference to what has been written on the matter from remote times, I cannot say that my experience of it in the Army altogether bears this out. It is not usual to find two animals affected with the vice standing side by side. I have never seen this myself. Subjects are usually widely separate in a stable. If a roll of wind-suckers is called in a unit they are usually found to come from different sections in Artillery and different squadrons and troops in Cavalry, and often from different stables. Indeed, this rather tends to disprove the imitation theory of cause, or at least, appears to show that imitation is more likely to happen through sense of hearing than by sense of sight, as is generally supposed. The sound of the peculiar grunt is most penetrating. It can even be heard through a brick wall in an adjoining stable, and it is our common experience on entering a stable to detect a wind-sucker by hearing the grunt before we see the subject.

I am not satisfied in my own mind that in Idleness and Imitation as causes we have got to the root of the evil. I consider that we must look further afield for the actual or principal reason.

The worst associates of the vice are, as we know, digestive disorders and poor condition, and it seems to me that if we search amongst these companions we are in a strong position to put our finger on the fundamental cause. I come therefore to the consideration of the question:—

If Indigestion is a cause or a result. There is no doubt that indigestion and digestive trouble of varying degrees result from wind-sucking. Veterinary History Sheets, on which the ailments of every horse in the Army are recorded, clearly demonstrate this, and it is the experience of civil practice. So this part of the question may be dismissed without further comment.

But can we shut our eyes to the probabilities of the other side of the picture? Digestive disorders are very prevalent both in and out of the Army—in the Army perhaps more particularly so. They are brought forcibly to our cognizance in the shape of Colic, Impactions, Ruptures, etc., but there are minor degrees of disorder and upsets which are apt to pass unheeded, or of which little account is taken. Habitual dung eating, licking the walls in front of the mangers, eating woodwork of standings, are evidences that something is wrong, be it faulty digestion or food unsuitably or insufficiently supplied.

Let us see what assistance in this direction can be derived from Veterinary literature.

Major-General F. Smith, late Director-General, Army Veterinary Service, makes no allusion to defect of diet or digestion in his account of Wind-sucking at page 750 of his *Veterinary Hygiene*, and he very indefinitely concludes the subject of cause as follows: "In whatever way the vice is acquired there is only one thing of which we can be positively certain—that it is contracted as a result of idleness. Hard-worked horses seldom crib-bite. It may also prove to be hereditary."

I may however quote another and very significant paragraph from his valuable book. At page 143 he remarks:—

"It is impossible to keep up vigour and condition on concentrated foods alone, a certain amount of bulk is needed by the bowels for the due performance of

digestion; without it the horse becomes 'tucked up.' Stewart believed it to be a common cause of wind sucking and crib-biting."

Williams in his *Veterinary Surgery* summarily disposes of the cause as follows: "These vices arise from or cause indigestion, induce colic, tend to lower condition and to depress the vital powers." And again: "Want of work, indigestion and the irritation of teething are generally the causes of these vices."

The excellent book on Animal Management published by the War Office makes no attempt to define the cause, except to state that "horses are prone to learn these two vicious habits from their neighbours."

Old time writers perhaps attached more importance to the vice than we do at the present day, and it is interesting to hear what Youatt says. He remarks: "The causes of crib-biting are various, and some of them beyond the control of the proprietor of the horse. It is often the result of imitation, but is more frequently the consequence of indigestion." And with regard to wind-sucking he adds: "It arises from the same causes."

The opinion of Veterinary Officers in the Irish Command are partly for and partly against a digestion and dietetic theory of cause. Personally I cannot get away from a deep-rooted belief in it. It seems quite natural to suppose an origin of wind-sucking in this direction, but I regret that I am quite unable to attach any tangible proof of it. It is, at all events, a line which will bear investigation, and particularly dieting with relation to idleness and long periods spent in the stable.

In support of this view I wish to place before you certain facts met with in the Army in addition to the great frequency of digestive disorders of different kinds. The daily diet as I have previously remarked is 10 lb. Oats, 12 lb. hay, that is 22 lb. all told; and in times of little or no work, as in winter, the grain ration is usually cut down in quantity to save for the more strenuous times of summer training. The daily amount is considerably less in bulk than what animals in civil life usually receive, and a question arises: "Is this daily total amount of food sufficient in bulk for the Army horse, particularly for the bigger and heavier Artillery horse, and is it possible that certain horses, to create the necessary distention of the digestive organs for proper alimentation, make up the deficiency by sucking in and swallowing wind?" Gentlemen, I offer this for criticism. Then, again, there is very little variation of diet in the Army. It is practically oats and hay day in and day out, often without even a bit of salt to give it savour or to promote digestion. The oats, too, are usually uncrushed or unbruised and in great part they pass out of the animal after having traversed 90 feet of intestine in the whole or apparently whole condition in which they were ingested. Furthermore, the usual system of feeding in the Army is grain in the manger, either alone or with a minimum of chaff, and long hay in the rack. The grain is liable to be much too rapidly consumed under these circumstances, errors of digestion ensue, and it is practically safe to assume that wind-sucking follows in the train.

If Heredity plays a part in cause. We have no means of determining this in the Army, but the consensus of opinion is against it. Perhaps you can throw a little enlightenment in this direction. Lieut. Hogg has informed me that he knows of several crib-biting stallions belonging to Scottish Border farmers, and to his knowledge, covering several years, the stock has remained free. On the other hand, Friedberger and Fröhner mention that 45 descendants of an Anglo-Norman stallion were all crib-biters.

If wind is swallowed or not. Most observers consider that air, more or less, is swallowed. It is curious to note that Williams in his *Veterinary Surgery*, 10th edition, is of opinion that in crib-biting gases are eructated, whilst in wind-sucking air is swallowed. I

cannot quite reconcile this. Personally I believe that air is swallowed. The repeated attacks of colic attended with flatulency and borborygmus point to this. I cannot say truly that I have observed air passing down the œsophagus, nor have I seen a wind-sucker blowing himself out to a tremendous extent, as described by Williams and others.

To what extent one animal learns it from another. Under the heading of imitation as a cause, I have already more or less commented on this. I there remarked that while fully acknowledging the possibility of one animal learning the vice as a trick from another, my experience was not altogether in accordance with the generally accepted view that imitation plays a fundamental part. The common experience in the Army is that near neighbours are not affected, and that subjects are widely scattered in a unit. In any case there is nothing to warrant the statement mentioned by one author (Youatt) that "it is a trick said to be exceedingly contagious," nor the remark mentioned by a recent author (Major-General Smith) that "it is said the lesson may be imparted in a few minutes."

It is interesting to hear what some of my officers say in the matter. Capt. Ryan, a very observant officer, remarks:—"Out of a number of cases I have never known a horse acquire the habit of wind-sucking from his stable companion, although indeed most writers of to-day declare the vice to be the result of imitation. I know of one case where a bad wind-sucker has been in a stable with nine other horses for five years and no other horse has learnt it from him." And again:—"There is a case here (Ballincollig) under my notice for the last 17 months of a bad wind-sucker standing in a stable with eleven other horses, none of which have as yet learned the vice from him. Though I don't think it impossible, I think it is very improbable that horses learn it from one another, and I have noticed that when asking Commanding officers to keep their wind-suckers together, that it was a case of bringing horses from different parts of the same stable or individual horses from different stables."

Capt. Conder, Cahir, says: "The popular belief that one horse learns it from another is certainly well established. I have, however, never met with any cases tending to prove this, and I do not believe that it takes place. None of the horses here given (e.g., 10 cases in the Brigade R.F.A., Cahir) have been standing in the same stable."

Capt. Hodgkins, Dundalk, says:—"The recorded cribbers (eight in number) are well scattered through the brigade, and no two are in the same section of the battery."

Capt. Nicol, in command 4th Hussars, Curragh, says: "Except in case of young horses, one troop horse seldom learns it from another."

Capt. Fisher, in command 5th Dragoon Guards, says: "I do not think as much as is generally supposed, or there would be more of them."

Major McDougall, in command 5th Lancers, Dublin, says: "A small percentage of cases may be the result of seeing other horses wind-sucking."

What relation stable noises bear to it. I have put this down as a question, as the noise in Army stables, from rattle of head-collar chains through rings or holes in iron mangers, is often considerable, and it might be conceived that noise by increasing irritability in certain animals might have a bearing on cause. The consensus of opinion is that it has no influence on the origin of it whatever.

What can be done to prevent or minimise it?

If more frequent feeding or a different system of feeding will prevent it.

What stable devices can be adopted to check it?

These headings all aim at prevention and mitigation, so I will consider them together. Speaking with

particular reference to Army horses, and taking idleness as the basis of the evil, it is obvious that a system of horse management permitting fuller employment and a more open air existence is the guiding principle in prevention. Measures that would tend to bridge over the dull monotony of a long day and night spent in the stable and the miserable existence of being so long tied up to a manger and facing a blank wall, should be the first thought of the horse-master. How can this be accomplished? I mention the following:

- (1) A regular complement of work.
- (2) When circumstances do not permit of or necessitates work, a proper mead of exercise to be given; not the half hour or one hour walk to take the stiffness out of the animals' legs, but a rational system of exercise admitting of a reasonable time spent in the open air, and carried out twice daily whenever possible.
- (3) A system of "liberty" in times when little or no work is required of animals. This is done by certain units of Cavalry and Artillery in the Irish Command during the winter. A portion of a troop stable is railed off, peat moss is laid down, a certain number of horses are turned loose into this enclosure, they are allowed to go rough and their shoes are taken off. Their diet is arranged for in accordance with their condition and the fact that no work is being performed, a saving in cost of feeding being usually effected. It is a procedure that has merit in it for certain horses, and it would be quite possible in many stations, by means of a series of corrals hygienically kept, to extend the system to the proximity of the stables, giving the animals the benefit of the open air. I have just looked up an old diary containing a visit in March, 1904, to a cavalry barracks in the United States, and I find I make the following remark, which shows what expedients in horse-management other people adopt: "Between each block of stabling there is an open space where horses can be tied up to a strong wire rope placed about six feet from the ground. They are not heel shackled, and learn not to kick each other. Or they can be turned loose. In my opinion this is a good plan. Only exercise is done in winter." Weather and circumstances permitting we might do likewise in our Army. I am sure if the horse's opinion was taken he would say it was a consummation most devoutly to be wished.

With regard to animals affected with the vice the usual procedure is to cast them, or to place them apart from other animals, for which latter purpose a specially constructed stall in each modern troop stable is now arranged for. It is however not desirable that they should be retained in Army service at all. By early casting and sale, imitation by other animals and the disability which inevitably arises from loss of condition, colic, etc., is avoided. They usually bring a very good price in the market, as they do well in private ownership.

Should the exigencies of army service not permit of their dismissal, or if for any reason they are retained, they should be collected, and form a coterie of their kind apart from other animals. They should be placed in loose boxes or in a stable by themselves. Loose boxes should have bare walls, no mangers or anything for a crib-biter to make use of, and feeding should be from the ground. However, loose boxes are not ordinary provisions of troop stables, and it remains therefore to make use of a stalled stable. Subjects are turned round in the stalls, they are tied up by means of short head-collar chains to sliding rings on the heel posts. The chains must be adjusted to prevent the animal from catching hold of anything with his teeth. Feeding is from a slung blanket. This measure is only of real benefit in the case of crib-biters. With wind-suckers pure and simple it is of no avail.

There are numerous patent inventions, but their cost usually precludes their general use in army service.

Moreover, what is suitable in one case is often of no use in another. For instance, a muzzle with two parallel iron bars front to back through which the animal can feed is effective in the case of a crib-biter that catches hold of the manger with his teeth, but is of no use for a wind-sucker that lays his chin on the manger, or one that is solely a wind-sucker. Then, again, a broad strap fitting tightly round the top of the neck with a projecting plate at the gullet prevents both forms of the vice as long as discomfort to the animal is sufficient. A special hollow bit with holes in the tube will prevent the swallowing of air, and from inability to close the mouth and thus exert proper suction the animal will sometimes, at least for a time, give up the attempt at wind-sucking.

When all is said and done, the fact remains that once a wind-sucker always a wind-sucker. The habit once contracted is never forgotten: it is incurable. It may be counteracted for a time, but it recurs. Even turning out to grass proves only a respite or of no absolute good.

And now I come back to the possible alimentary causes of the vice, and a consideration of prevention from that standpoint. If there is no connection, nothing more remains to be said, but it is the common experience that digestive disorders, poor condition and wind-sucking are so intimately associated in practice that we must look to like means in each for avoidance or prevention. It really resolves itself into a matter of diet and dieting.

Under the heading of cause I indicated the manner in which digestive and dietetic causes were possible, and it remains therefore for me to state my case for prevention.

Be the horse master private or Government, I think it is extremely necessary he should in the first place keep a careful watch on the total daily bulk of food his horses are getting. In times of saving it may be possible to cut down the amount for the majority of animals, but the individual idiosyncrasies of others will not admit of it with impunity. It is, for instance, quite common in horse-management to hear such remarks as these:—"Oh, that horse wants a lot of food," or "this horse will get fat on nothing." Any tuckered up appearance or lightness of belly should therefore be looked upon as a danger signal of trouble, and guarded against.

To avoid the quickly induced digestive trouble liable to arise from a rapid consumption of a solid, or more or less solid grain ration, an admixture of a considerable amount of chaffed hay with the grain ration is advisable. It is largely followed in industrial horse companies; it is correct in principle, and it proves a saving in material. I am glad to say it is a practice that is finding favour in army horse management, and I trust that with better facilities for chaffing and larger mangers to hold the mixture it will become the usual method of feeding. I am certain that if at least 8lb. of the hay ration was chaffed and mixed with the grain ration, and the balance of the hay given loose, there would be an improvement in condition and less dietetic disease. The practice would entail an increase in the number of times of feeding per day, but here also is advantage, as it approximates nature's rule of little and often, as the small stomach of the horse indicates.

Also I do not agree with the principle of sticking so closely to one kind of grain, such as oats, in feeding. I think much better value is got out of a mixture of several grains, and certainly ringing the changes whenever circumstances of season, work, or cost permit or necessitate, is advantageous and health promoting.

Furthermore, I think grains should as a rule be bruised or crushed. It is even more necessary that this should be done when they are fed as an admixture diet with chaffed hay than otherwise.

Lastly, all horses should receive a ration of salt. I

do not mean rock salt in the manger, but a regular ration of say half an ounce per day. This is the usual custom in India.

Col. Moore was loudly applauded at the conclusion of the reading of the paper.

DISCUSSION.

The PRESIDENT said he was sure they had all been delighted with the excellent paper by Col. Moore, and he was sure there were many present who had opinions on the subject, which was fairly common, so he hoped they would start the discussion at once and keep it going until they had to be turned out. (Laughter).

Mr. McKENNY said they would one and all agree that they had heard a very able paper—(Applause)—and Col. Moore must have given the subject much thought. A great deal that had been said he thoroughly agreed with. In the early parts of the paper the remarks tended to prove, from the various authors that had been quoted, that "Imitation" had very little to say to the matter. It was his experience that it had a great deal to do with it, especially in young horses. It was strange if the former opinion was held by the military authorities—in dealing with it they either sold the horses or separated them—which showed that some other experience had taught them that "Imitation" did play an important part. But as crib-biters and wind-suckers in the Army were sold or separated from the other horses, it would be perfectly correct to state that in the Army the vice was not contracted by "Imitation"—no opportunity was allowed! With regard to the cause of the vices—"Idleness, Indigestion, Imitation, or Poor Condition." Idleness and Indigestion should be considered together, as want of exercise and overfeeding caused Indigestion, which was the absolute cause of the vice, and not the mere idleness.

Referring to "Imitation," Mr. McKenny said he believed horses did imitate, and that was seen frequently in racing stables where there were young animals kept. The poor condition; that indigestion was a frequent cause of the vices, but as the pernicious habits were frequently contracted by imitation, and wind-sucking was a cause of indigestion, it would often be difficult to ascertain whether the indigestion caused the vices or the vices caused the indigestion. They could scarcely separate them; it might be one or the other.

As to heredity, a well-known stallion named "Pliny" was a terribly great eater, and nearly all his offspring were the same; a great many of them were crib-biters and wind-suckers—he scarcely knew one which was not a dirty feeder and ate its own droppings. He had two at the present moment and a third, a stallion, and it was amazing to see that horse; he had him tied up, and he would absolutely turn round and dung in the pot and eat it in preference to his oats. He suffered badly from Tympany; some days he would be well and in good spirits, and some days he would not travel at all.

He (Mr. McKenny) had a patent, and he hoped they would not consider it an advertisement if he showed it; he felt certain from watching horses that they could and did swallow wind. In the matter of stable noises he agreed with the Colonel. Now came the important subject and he could dismiss the rest, "the Cure and Prevention." This consisted in the use of his invention. (Laughter and applause.) Mr. McKenny showed his patent bit, which consisted of two nickel plates hinged together and made to fit the mouth, with slots, to which a headgear was attached; when this was adjusted the plates opened and closed, simultaneously with the opening and closing of the mouth, so that all objects the horse attempted to eat were received between the plates and could not be swallowed. The corners of

the lips could not be closed, therefore air could not be passed into the gullet. He said it had not at all met with the success in sales that he thought it would, the objections to it, with a great many, were when they saw it on the horse it looked an abominable thing. Animals frothed from the mouth and it caused great inconvenience apparently, but from the time it was put on a horse previously in bad condition got fat with less food. He had proved it over and over again. There were no springs to it, but the horse could not close the lips and could not swallow air or food.

Col. MOORE: If you take that off he would wind-suck again the same as with other bits?

Mr. McKENNY: I only take it off when feeding. It is not for sake of advertisement, but I would like you to test the bit, and please accept it from me.

Col. MOORE: I would like to try it, although we have plenty of other inventions.

Mr. McKENNY: Horses suffering from Tympany you will find will be cured if my bit is used.

In reply to Col. Moore, Mr. McKenny said the bit should be left on all night. (Applause).

Mr. MAGEE congratulated Col. Moore on his interesting paper on this important subject—a subject, he thought, they did not give enough consideration to except on occasions like that, when they had to form opinions hurriedly with regard to the many points that Col. Moore had so well tabulated for them. The essayist had brought a commonplace subject before them in a very interesting manner. (Hear, hear.) His impression with regard to the cause of wind-sucking was that idleness was the principal factor in developing the vice. He did not think imitation or indigestion had anything to do with it. If the former played a part in its development there would be far more horses affected than there were, and they scarcely ever found two wind-suckers side by side. Indigestion was popularly supposed to be the principal cause. His reason for thinking that it was not was that when wind-suckers got a good run at grass they remained wind-suckers, but if a horse suffering from indigestion was not cured when turned out to grass he did not know what would cure him. Besides, as far as he could see, wind-suckers did not suffer from the usual symptoms of indigestion, such as capricious appetite, or loss of it altogether, dullness, etc. The tympany which often does occur was, in his opinion, due to the air swallowed by the animal and not to the fermentation of indigestion. His belief was that in wind-sucking air was always swallowed by the animal. A characteristic noise was made, and the thing to find out was what was the cause of it. The noise undoubtedly occurred in the neighbourhood of the pharynx, and he believed it was due to the vibration of the commencement of the oesophagus in forcing the air down the tube to the stomach. If wind was eructated they would call it in the human subject "belching." The way to prove that a wind-sucker did not belch gas was to call to mind a case of gastric tympany, where eructation of wind certainly did occur, and the noise gave one the impression of air escaping up a tube from an empty barrel. He, therefore, thought there was not any eructation in the act of wind-sucking. For preventing or minimising the vice, he agreed with Col. Moore that it would be well, if possible, to place the horse, when not working, under such conditions that he would have something to occupy his mind as it were. This could be done by letting horses out at times into open spaces where they could walk about, or "dust," or talk with their fellows about the latest scandals in the horsey world. The stable devices that could be adopted to check the vice had been very fully enumerated by Col. Moore in his excellent paper. (Applause).

Mr. PATRICK said they all agreed that it was an excellent paper, but as to elucidating the causes he was doubtful if they were going to clear up the points or

decide what conditions were necessary to engender the habit. Col. Moore had mentioned most of the supposed causes—the understood causes of the trouble, and he thought indigestion had been looked upon for quite a long time as one of the causes of it. He would subscribe to that view. When they had stomach disorder accompanied by depraved appetite they had an unnatural craving, and that might be given as a habit of licking objects, etc., for more salt. That was a craving of nature, and would lead to the habit. They often saw young horses with dental trouble when getting incisors, they licked the cold iron manger or a stone. It became a force of habit after a time. Many horses were large feeders, and in the attempt to look for food by licking up refuse from the manger and floor, they more or less engendered the habit. He would think that was a predisposing cause. Heredity, he thought, had a good deal to say to it, for the reason that he had known cases of brood mares having foals so affected. He knew a dam at present suckling that was a wind-sucker, and the foal became the same. He thought it was imitation from seeing the dam do it. He did not think the gas was eructated. He had watched these cases, and the horse wanted to swallow the wind as a rule. He would like to see a horse swallowing wind before he would say he was a wind-sucker. He knew a horse that played with his lips and he had to watch it for two hours until he saw it make the gulp characteristic of wind-sucking before he made out that it was a wind-sucker. As Mr. Magee had said, it was a sound produced high up in the throat, but the exact position was a different matter. Once the sound was heard they could not forget it. As to stable noises at feeding time, it was possible a horse would do it then. Often when a horse was pleased he did it. Stable noises might to a certain extent affect him.

With regard to what they could do to prevent it, he did not think he could offer any opinion, beyond removing all stable fittings, and using Mr. McKenny's bit. With regard to the strap Mr. Magee spoke of, he had found it very efficacious in some cases. It was decidedly useful, and he thought it was because the strap was across the mouth and they could not make the same vacuum in the mouth. He had no special device to offer, but he wished to add his thanks to Col. Moore for his paper.

Mr. HARE asked Col. Moore to explain a point. He (Col. Moore) had said that wind-sucking and crib-biting was much less in India. He would like Col. Moore to state if there was any difference in the ration the horses received in India as against the horses at home.

Col. MOORE said the ration for horses in India was usually mixed gram, bran and barley. The parts were: barley about 5 lb., bran 2½ lb. and 2½ lb. gram, and half-an-ounce of salt. They got 20 lb. of grass. At home they only gave 12 lb. of hay. Sometimes the horses got *banasa*, which was straw trodden by bullocks. They had to consider that perhaps cases were not so much recorded in India as in this country, but all the same, he did not think the prevalence was so great. The horses were in the stables during the day, but at night they were in the open. There was no noise and they certainly saw more of each other. The ration was absolutely different. Barley, gram and bran was an excellent diet really better than oats by itself. It was a well-balanced ration, and a good practical ration. He thought a similar diet would be good for this country also. Of course, barley was used because it was the staple grain.

Mr. WATSON associated himself with the previous speakers, having special regard to the way in which the paper had been presented to them. Col. Moore had made a perfect index of his subject, the precis was so lucid that the "man in the street" could listen to him, and although the man in the street was not a scientist, yet he could be with them that evening and learn much.

There was a strong similarity between dyspepsia in the human subject and the cause or result of wind sucking in the horse. In other words the condition of the stomach of the dyspeptic and the stomach of the wind-sucker bore a strong similarity. Both had a faculty for making wind. He remembered hearing the question put, How do you spell dyspepsia? and the answer was "wind," and it was undoubtedly a strong factor in both affections. He believed that some abnormal condition of the stomach was the cause of wind-sucking. It was his belief that good stomachs and bad stomachs in horses and men were hereditary. There was much truth however in the saying that in their youth they abused their stomachs and in their old age their stomachs abused them. Of course abuse by bad feeding or irregular feeding would produce changes which would result in chronic indigestion. Chronic indigestion always produced dilatation of the stomach, and invariably such stomachs were always distended with gas. The act commonly spoken of as belching in the human being and wind-sucking in the horse was an effort to get rid of this distention. Mr. Magee says in belching they get rid of the gas in the stomach. Many medical authorities of distinction say that this is not so and that the vacuum caused by belching is immediately filled with air from the outside. He remembered making a post mortem on a bad wind-sucker once; he found the stomach enormously distended, and the coats of the stomach greatly attenuated. These changes could only come after the chronic indigestion, having an existence for a very prolonged period. Not being a practitioner he had not any intention of criticising the paper, but he could not allow the opportunity to pass without his thanks to Col. Moore for his very interesting paper.

Prof. A. E. METTAM said that he had been out of practice for so many years that he would scarcely know a wind-sucker. (Laughter.) He had enjoyed the paper. He thought in the first place they were apt to lose sight of the anatomy of the horse and its physiology. The horse's stomach was small, and therefore it required feeding frequently and in small quantities. While Col. Moore was reading his paper the question occurred to him as to how the horse fed under natural conditions. How often did one see a horse resting from feeding when he was turned out? He grazed nearly all the time he was out. Usually he was fed three times a day at intervals of about six hours. For twelve hours he was doing nothing. The method of feeding the horses in the stables was artificial, and it required overlooking and changing.

He did not think that heredity had anything to do with the subject. He thought that wind-sucking was probably the fault of indigestion. The explanation might be that the food they gave horses was too concentrated. A horse required a certain amount of what he might call "ballast." They required material over and beyond what was necessary for maintenance. An animal suffering from not getting sufficient material to give him that repleteness which was necessary to perfect digestion would endeavour to bring in that repleteness by other means. He had seen wind-suckers pass what was a "bolus" along the oesophagus—he believed it was not air pure and simple, but air mixed with saliva. It was not a question so much of the animal swallowing air, but it was more saliva, or a mixture of the two. The animal found he got comfort and relief from swallowing saliva, and there might be an abnormal acidity of the stomach, and alkaline saliva would abate that somewhat and assist in the conversion of the carbohydrates of which the horse's diet consisted into the sugars, which were more easily assimilated. He thought the tympany they were familiar with was not so much the tympany due to the swallowing of the air as to tympany due to the fermentation of the food in the alimentary tract. With regard to an animal having a morbid appetite, it indi-

cated indigestion. It was likely that animals that ate bedding and dung suffered from a form of dyspepsia and indigestion; that supported the contention that indigestion was probably the fundamental cause of the whole thing.

The suggestion that it was more frequent in the Army than in civil life he rather doubted, for the reason that in the Army they had a more clear conception and a better history of the cases. They were under the view of some officer of the Veterinary Service every day, and they knew everything that occurred to the animal. In civil life they had not the history of such a collection of horses. Even in a city like Dublin, if every horse was under the charge of the profession they would not be under the charge of one individual who would know what was going on in all the horses. A veterinary surgeon could only get an idea of the horses under his view, and so far as he (Prof. Mettam) was concerned he was convinced that it was not less frequent in civil life than in the Army.

The reference to India was very interesting to him, because it rather supported what had been his contention—that it was due to the artificial way horses were treated. They had been told that animals were going back nearer to nature, and were treated more naturally in India than here. When they were treated more naturally they found fewer cases and less possibility of wind-sucking. A horse might wind-suck in the stable, but would not on grass, but would resume it when he came back. He agreed to a certain extent with Mr. Magee that the medicine of the green field would give relief to indigestion, but the cure might be only of a temporary nature. It was held by physiologists that it was impossible for a horse to eructate. The relation of the oesophagus to the stomach would forbid it to bring up food or wind. If a horse vomited it was contended there was a serious lesion of the stomach. (Applause).

Mr. REAVY said they could all congratulate Col. Moore on the able paper he had given them. He thought he would hear some discussion as to whether crib-biting and wind-sucking were separate diseases. He agreed that indigestion had a great deal to do with it. With regard to the quality of food being a cause, as a practitioner in the country he knew a farm on which the owner paid little attention to his horses. In fact they were kept in the yard, and the principal food was hay, and it was bad hay, and his stud was reduced to keeping one horse only, and the strange thing was that for the last two years he had had four separate horses, and every one of them was a wind-sucker. Could they attribute that to the bad hay causing indigestion and making them wind-suckers?

Col. MOORE: I should think that is highly probable, and it is proof that indigestion is a cause of wind-sucking.

Mr. J. B. DUNLOP, having thanked Col. Moore for his paper, said he would not like to say that crib-biting and wind-sucking were the direct results of indigestion. He felt certain, however, that it was a cause of indigestion. The reason he thought so was that when horses were prevented from wind-sucking they improved very much. He believed a horse swallowed wind, and they all knew well it was very unnatural for air to be in the stomach when digestion was going on. Nature had made provision to close the oesophagus and prevent air getting down. Whether crib-biting was a cause or the result of indigestion, he always considered it an unsoundness, because indigestion itself is an unsoundness and should be condemned. Prof. Mettam said it was a mixture of saliva and air. That might be so; he had not heard of the saliva theory before. There was no question about tympany being a result. He had often seen horses regularly filled up. Then, with regard to dirty feeders, he attended to eleven horses to "keep his hand in," and

he had a horse under his charge recently that was a dirty eater, and he could scarcely prevent him from eating dirty food, and the result was he broke out in a sort of rash (acne pustulosa) all over the body. But when he succeeded in preventing him eating that food his skin became beautiful, and he was now in excellent health. It was all very well to say that horses were not fed naturally. Convenience and economy had to be studied. A few years ago hay was reduced owing to scarcity, and he never saw the horses in better condition than when they did not get too much hay. No doubt idleness and monotony was a cause of crib-biting, and he had no doubt it was bad to have a manger about three feet high. One reason occurred to him why it was not so prevalent in India. The horses were not idle because there were a great many flies. If they gave a horse plenty to do he would not wind-suck and crib-bite—which were only different methods of doing the same thing. Of course it was difficult to cure wind-sucking unless they got Mr. McKenny's apparatus. He could not quite understand about the pit ponies. If they were turned out to grass during the strike they would not acquire the habit there, but underground he would think they became crib-biters. He had peculiar ideas of indigestion. He believed it was an effort of nature to clear the body of poison, and anyone subject to indigestion scarcely ever suffered from bronchitis or asthma. Indigestion was often accompanied by acidity and rather tended to prevent flatulence. There might be something in imitation, but he could not give an opinion to whether or not that was a cause of crib-biting.

Prof. O'CONNOR said he had nothing to add with regard to this condition of crib-biting and wind-sucking, but he wished to say how much he appreciated Col. Moore's paper. He listened to it with great pleasure—it was so lucidly written and so interesting in every way. With regard to the cause of the vices he had nothing really to say, except to offer conjectures, the same as most people. He thought idleness of itself would not be a cause, because horses at grass did not suffer from wind-sucking. The primary cause would appear to be the housing of animals, and Col. Moore struck the keynote when he said the environment of the animals had a lot to do with it—the monotony of the horses' lives. When they had more liberty and lived under more natural conditions they did not suffer from the disease. Every horse affected with wind-sucking and crib-biting was affected with indigestion as well, and they knew many horses affected with indigestion but not wind-sucking, so if indigestion were the cause of wind-sucking, the vice should be more prevalent than it is. Horses often had colic from indigestion and did not as a consequence suffer from wind-sucking. A combination of causes would appear to be necessary to produce the disease. Keeping animals under natural conditions as far as possible would seem to be the best preventive.

He wondered whether the disease was as common on the Continent as in the British Isles. It was interesting to hear that it was so rare in India. On board ship he had never noticed it in horses. He had had charge of some 5000 horses going to South Africa during the war, and although he observed them constantly it never struck him that one of them was wind-sucking or crib-biting. Most of them came from Russia, down through Austria, and they were rather rough horses, which had been in the open all their lives. It might have escaped his notice, but if anything was wrong he thought he would have observed it.

He did not know if heredity played any part in it, but if indigestion was a cause he would think it was hereditary. He thought air was swallowed when a horse was wind-sucking or crib-biting. Col. Moore had proved that it could not be learnt by mere imitation.

There was no doubt about that. He thanked Col. Moore for bringing the paper forward.

The PRESIDENT, after thanking Col. Moore for his paper, said it would be the means of starting a good many people to pay more attention and observe more the history of the animals they found suffering from those vices. Personally he thought there was very little use in holding much distinction between wind-sucking and crib-biting. As regarded the causes of the disease, he thought indigestion was undoubtedly the cause, but it was also a result, and it was hard to differentiate at which time it was the cause and which the result. They would find if a young horse picked up these vices he would eventually suffer from indigestion as a result, but in such case one could scarcely say he had begun the vice from the fact of his suffering from indigestion in the first case. He was satisfied the disease was spread among young animals, not so much by the watching of others at the mischief as by hearing them at it. He would like to ask Col. Moore whether he had any record as to the ages at which they found horses to be more prone to this particular mischief. In his own experience he did not remember to have seen a horse start the trouble in his old age. In the majority of cases he had found horses rather young—four up to seven or eight years—and even younger, and he was certain he had seen at least three colts that had never been in a house, had been fed on grass, and were confirmed wind-suckers at three-years-old. He had the misfortune to own a valuable thoroughbred recently that was a confirmed wind-sucker at two years old, and before it was weaned from its dam, but the dam, he found, was a wind-sucker. He did not suppose anyone would put forward the idea that the vice itself was hereditary, but the conditions which gave rise to the vice were undoubtedly hereditary. He did not know that the noises that were made in Army stables would have anything much to do with the spreading of the affection. He believed the vice would not be found to anything like the same extent in stables where the animals were kept in loose boxes as compared with those in which they were kept tied. He thought if one could get the entire history from early life of animals found to be subjects of these vices there would be more to learn. Idleness has been referred to as a cause. Idleness had something to say, but not much. For years he had had under observation a number of stallions at stud. For nine months of the year they lived an idle life, and he could hardly recall a case in which he had seen a stallion a confirmed wind-sucker. He had seen some, but considering the number of stallions he had had under observation, he did not think the affection was prevalent among them. If idleness alone was a great cause of the mischief, surely that class of animal would be found more often subject to it. It was fairly well recognised now by people who had to feed, that they had a better return in every way from giving crushed corn than whole corn. As regarded the devices that might be used, anything in the shape of Mr. McKenny's bit—simply an ordinary leather with a bit of tin nailed on and strapped, would have almost the same effect. It hung between the teeth and prevented him fixing his mouth in the fashion in which he could carry on the vice. With regard to the definite statement of Prof. Mettam that eructation in the horse was more or less impossible, he may have been wrong, but he was rather of opinion that he remembered on several occasions he had seen horses suffering from gripe or colic, or when tympany was present, making definite attempts at getting rid of something in the shape of gas, and he was more convinced of that, because sometimes a little more than gas would come from the stomach, and in all cases they got well. (Hear, hear.) Prof. Mettam also said he thought in those cases of crib-biters and wind-suckers there was a good deal of saliva. If they watched a wind-sucker carefully they would change their minds on that matter,

because when he started to practise the vicious habit there was no sign whatever that he had any amount of saliva present in his mouth. Watching the horse ordinarily described as a crib-biter, they would see it would be impossible for him to have saliva in his mouth without having some outside his mouth. He did not think he could have a lot of saliva, as the action was so quick. He also thought the appearance of something going down the oesophagus was sometimes only an appearance, and was the natural contraction of the oesophagus after the action of swallowing had been attempted. Again he would offer Col. Moore his best thanks. (Applause).

Mr. MAGEE said he would like to make a few remarks on what Prof. Mettam had said as to his belief that horses could not eructate gas from the stomach. He (Mr. Magee) was certain they could. In gastric tympany he had adopted the treatment advised by Caulton Reeks, in his excellent book "The Common Colics of the Horse"—the administration, when cool, of Ferri sulph. and Liq. ammon. fort in boiling water. He had seen a horse that was in pain and belching gas for hours instantly relieved of both as soon as the mixture entered his stomach. Prof. Mettam said he could not see why the horse would not pass the gas along through the bowel sooner than eructate it. In a case of dilation of the stomach with gas the reason was that the duodenum formed an S shaped curve at the back of the stomach, and when the stomach was distended with gas it pressed back on the duodenum and closed the trap, thus preventing the exit of gas in a backward direction. It then escaped involuntarily in small quantities by the oesophagus.

Mr. DUNLOP said he would like to emphasise what the Chairman said in his remarks.

Col. MOORE, in replying, thanked those present for the discussion that had taken place. So much had been said that he did not quite know where to begin in reply, but he had noted one or two points as headings. The first was as regards age. He was interested to hear from Mr. Patrick of a foal two months old being a wind-sucker, and so young a subject as the seventeen months old colt mentioned by Mr. Howard was also interesting. A few days ago Capt. Deacon, A.V.C., had asked him regarding teething and age in relation to the vice, and he had wired to officers for recorded ages of wind-suckers in the various units, and the figures were as follows:

Wind-suckers in Irish Command. Showing recorded ages and number at each age addicted to vice.

3 years	...	0	12 years	...	8
4	...	1	13	...	11
5	...	9	14	...	11
6	...	5	15	...	6
7	...	6	16	...	4
8	...	12	17	...	9
9	...	9	18	...	4
10	...	20	23	...	1
11	...	14			—

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Officers had instructions to record cases as soon as they observed them. He was pleased to hear so many of them agreed to the indigestion theory of the cause. Personally he felt rather strong on it. He was more or less diffident in advancing that theory, but he was pleased to think that he was backed up by almost everyone present. There was, without doubt, an association between wind-sucking and depraved appetite. He instanced a unit of cavalry that two years ago was in bad order. The horses were rather poor, and many were dung-eaters. They have had a considerable number of wind-suckers in the unit. It was a common experience to find that a wind-sucker was a dirty-feeder. He placed great value in what Prof. Mettam said about air being mixed with saliva when swallowed. He knew

it was so recorded in books, but he had never satisfied his own mind on that point. He was inclined to agree with Mr. Howard that what they saw passing down the oesophagus was vermicular movement only. Horses would crib-bite with the mouth full; it was not infrequent. It was the common experience of post-mortems on inveterate crib-biters and wind-suckers to find dilatation of the stomach. Mr. Magee mentioned about turning horses out to grass. It might cure indigestion but it would not cure the habit. He thought at one time that it would do so, but he was now convinced that it was of no lasting good. He noted the remarks about heredity: there was no reason why predisposition should not be extended to indigestion and even to dirty feeding.

The scale of diet in the Army had been mentioned. Well, it appeared little, but it must be remembered that the scale was a standard one for all the year round. Commanding officers were supposed to save in the winter to have more in the training season. There was little margin, and Commanding officers were good horse-masters to make ends meet. The wonder was that they did not have more trouble. If a horse was 16 hands he got two pounds of grain extra, and the same was done if he had special work. On active service it was again increased.

With regard to pit ponies, it was understood the ponies were down in the pit when they took to wind-sucking, and not when brought to the surface. That made all the difference.

With regard to the frequency in civil life as compared with the Army, they must remember that many of the wind-suckers in civil life had been cast for the vice from the Army.

The infrequency in India was considerably due to the more open air life or more natural life, as Professor O'Connor remarked, and there was a good deal in the remark about the flies keeping their minds occupied, as Mr. Dunlop said. Crushing corn in the Army was done more now than formerly. If peas and beans were used for food they would be crushed undoubtedly.

In conclusion, he again thanked them for their discussion. It was a subject in which he was very interested, and one which he meant to pursue.

Mr. WATSON remarked that at present the Public Health Department were pursuing the fly to kill it. Would he tell Sir Charles Cameron to stop it, or they would have an increase of wind-sucking. (Laughter.)

Votes of thanks to Col. Moore for his paper, and to the President for his conduct in the chair, concluded the meeting.

Prosecution by the R.C.V.S. at Llandilo.

A short note on this case appeared last week, p. 798. We are asked to reprint the following:—

Mr. Powell: The Section of the Act upon which the prosecution is based is: "If after the 31st day of December, 1883, any person other than a person who, for the time being, is on the Register of Veterinary Surgeons, or who at the time of the passing of this Act, held the veterinary certificate of the Highland and Agricultural Society of Scotland, takes or uses the title of veterinary surgeon, or veterinary practitioner (Mr. Powell did not suggest defendant did either of these) or any name, title, addition or description stating he is a veterinary surgeon, or practitioner of veterinary surgery or of any branch thereof, shall be liable to a penalty of £20." Where defendant had offended was in taking an addition, stating that he was a practitioner of veterinary surgery, or of some branch thereof, and was specially qualified to practise the same.

They charged him with using title, and that he was not a member of the College of Veterinary Surgeons,

and had been practising as a veterinary surgeon. There were plenty of people who were doing veterinary surgery work well and honourably, and perfectly legitimately, against which the College would never think of bringing a charge. Whether the defendant had got these foreign diplomas he (Mr. Powell) neither knew nor cared; it did not affect the case one way or the other, nor did it make the slightest difference to the charge brought against him. He had no connection with the Royal College of Surgeons. Mr. Powell quoted the case of the College v. Collinson, in which the respondent, who was not a member of the College, and not on the Register, and didn't hold the veterinary certificate of the Highland and Agricultural Society of Scotland, exhibited outside his residence a board on which were displayed the following words: "M. Collinson, Canine Specialist, dogs and cats treated for all diseases." He submitted that case was practically on all fours with the present one. Defendant was an unqualified person, whatever his foreign diplomas might be, and he had no right to take any title saying he was practising veterinary science or any branch thereof.

In another case, R.C.V.S. v. Robinson, an unqualified person displayed over the door of his forge and on his billheads, "J. Robinson, veterinary forge," and he was held guilty of an offence under this Section. The present case, Mr. Powell thought, was infinitely stronger than the two cases he had quoted.

The defendant had a perfect right to practice, but he must not take any addition to his name. There were instances of persons, highly respected in the town, who practised, and against whom there could not be a breath of suspicion that they were breaking the law, as in their case they only used their own name.

Mr. H. Jones Thomas: This is not a fraud, because he states that he has no connection with the College.

Mr. Powell: We don't charge him with fraud, or with pretending or endeavouring to mislead the people that he has any connection with the R.C.V.S. What we say is he has offended against this Section in taking after his name a title, addition, or a description, stating that he has the practice of a veterinary surgeon. He had "canine specialist" on his bill-head for one thing, and the fact that he stated "no connection with the Royal College of Surgeons" did not permit him to override the Act of Parliament.

Mr. E. C. Jones, Llandilo, stated that a short time ago he had an action in the County Court against defendant, and in the course of the action he received a counter-claim from the defendant. He got it through the court, and a duplicate through the post. The defendant appeared in court against him in support of the counter-claim.

Cross-examined, he thought he had received a thing of the same kind from defendant before, but would not swear to it. He could not swear defendant delivered the bill read to the court, but it was through the court he got it. It was possible anyone might have put the particulars on the bill without defendant's knowledge. He had not engaged defendant; his wife gave defendant a cat, he did not. He had never verbally held out that he was a veterinary surgeon, only on paper. He knew defendant's writing, and the writing on the billhead was his. He could not swear to it, but he had some other correspondence from him.

Mr. H. Herbert: Didn't I understand Mr. Powell to say defendant appeared in court in support of this bill?

The Clerk: How did you get hold of his if it was in court?

Witness: It was sent with my summons, and given me by a bailiff.

A clerk named John, from the County Court Office, said the bill was handed in by defendant. Asked by Mr. Hurley had he remembered this particular case, he replied that the defendant came to the office and said he

wanted to bring a counter-claim, and he was told he would have to get particulars. He went away and came back with the billhead.

Mr. Hurley : Do you positively say you know all the persons who hand in particulars of counter-claims to you ?

Witness : If you mention a particular case perhaps I would.

Mr. Powell : The defendant is well-known : he is a resident in the town.

Mr. Hurley : It is all very well for a person to swear he can remember a particular person.

The Clerk : Do you suggest he is swearing that without knowing what he is swearing ?

The Chairman : We take it for granted the defendant is well known to the witness.

THE DEFENCE.

Mr. Hurley for the defence, submitted there was no satisfactory evidence before the Court as to whether the defendant had delivered or published the billhead on which he was prosecuted. Evidence had been given that the billhead was delivered to the prosecutor, E. C. Jones, through the County Court, but of course he couldn't swear on oath that it was delivered by the defendant.

Mr. Powell : E. C. Jones is not the prosecutor, but the Royal College of Veterinary Surgeons.

Mr. Hurley, continuing, said the only thing Jones could say was that he received it from the County Court bailiff, and with regard to the other witness, who stated he remembered the defendant handing in these particulars of counter-claim, although he did not suggest he was stating what was untrue, he asked their worships to consider very carefully his evidence, because he received numerous particulars of claim and counter-claim from time to time, and it was really very difficult for him to say who the individual was who delivered them. Dealing with the merits of the case, the defendant was charged with holding himself out as a practitioner of veterinary surgery or any branch thereof. Their worships would observe from the billhead—

The Chairman : You don't deny that ?

Mr. Hurley : We don't admit it ; it is for the prosecution to prove.

The Chairman : You suggest that is not published by the defendant ?

Mr. Hurley : I say nothing whatever ; it is for the prosecution.

The Chairman : It is quite clear that it was delivered in the County Court on behalf of the defendant.

Mr. Hurley said the fact that defendant appeared in Court in support didn't prove that the billhead was published by him. Someone else might have filled it up, and he appeared in support of the counter-claim. Defendant did not say in any way he was a veterinary surgeon. He said "Doctor of Veterinary Dentistry," and with respect of this he could, if required, produce certificates from a college in the U.S.A.—two diplomas which had been granted to him.

Mr. Powell : I don't care a bit if he is a member of a dozen colleges.

Mr. Hurley said by these documents defendant didn't hold himself out as practitioner of veterinary surgery. All he said was "Doctor of Dentistry and Veterinary Science, U.S.A." He stated where they were granted from. Having quoted a case, *R.C.V.S. v. Groves*, in which the defendant, who was not convicted, described himself as a pharmaceutical and veterinary chemist, Mr. Hurley replied that defendant only described himself as a doctor of veterinary dentistry, and he submitted that was distinct altogether from veterinary surgeon.

The Clerk : A chemist is not a surgeon.

Mr. Powell : That is a totally different case.

Mr. Hurley said that in view of that case he would ask their worships, even if they were satisfied that

defendant had published that particular bill-head, to hold there had been no infringement of Section 17 of the Act ; or if they had any doubt to give the defendant the benefit of that doubt.

In reply to the magistrates, he said he was not going to call the defendant.

Mr. Powell having again addressed the magistrates, the Clerk read the case of "*Groves*," and said it did not touch the present case.

The Chairman said they considered that defendant had infringed Section 17, whereupon Mr. Powell said he was instructed to press for a heavy penalty.

The Deputy Chief Constable stated that on the 25th July, 1903, defendant was fined 25s. for falsely representing himself to be a qualified veterinary surgeon, and on the 2nd April, 1904, under the same charge, was fined £5 and costs.

Mr. Hurley said in this case defendant had certain certificates granted by a college in the U.S.A., and he made an innocent use of them. If he had infringed the section, it was unintentional ; he (Mr. Hurley) therefore asked the magistrates to be lenient in view of the nature of the case.

The Chairman said they did not consider it a serious offence ; but still they must impose a fine of £1, including costs. An advocate's fee of 10 6 was allowed. —*The Herald*, Carnarvon.

Board of Agriculture.—The allocation of Development Fund Grants.

Though indeed the work of the President of the Board of Agriculture is of an unostentatious quality, Mr. Runciman is by no means an idle man, as a memorandum just issued from his department abundantly testifies.

The memorandum shows first the purpose for which advances have been made to the Board of Agriculture from the Development Fund ; and, second, certain advances made through the Board of Agriculture. In the first of these sections grants were made for the improvement of Light Horse Breeding, for Agricultural Research, Farm Institutes, the Development of Forestry, Agricultural Co-operation, and Fishery Development.

Among the various grants we note the following :—

* * *
Royal Veterinary College.—£1390 for investigations in respect of vaccination against tuberculosis and other investigations.

(b) Animal pathology. The Royal Veterinary College and the Board's Veterinary Laboratory.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, June 14.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. A. Hodgins to be Capt., with precedence next below Capt. V. C. Leckie.

June 18.

REGULAR FORCES. ARMY VETERINARY CORPS.

The following notification to be substituted for that which appeared in the *Gazette* of June 14 :—

Lieut. A. Hodgins to be Capt. with precedence next below Capt. V. C. Leckie. Dated Feb. 13.

His Majesty the King held a Levée on June 13, at St. James' Palace.

The following presentations to the King were made,

* * *
Capt. H. E. Gibbs, A.V.C., by the Inspector General of the Home Office.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN. Week ended June 15	10		12				2	2	36	68		67	1172
Corresponding week in	1911	15	30	30			4	4				76	1006
	1910		29	34			5	12				38	304
	1909			37			11	22			1	39	216
Total for 24 weeks, 1912	475		530				80	164	2025	4536	162	1637	21152
Corresponding period in	1911	446	761	557	1	18	100	261			302	1216	13386
	1910		680	920			168	466			312	650	5966
	1909			914			278	1091			454	816	7405

† Counties affected, animals attacked: Surrey 1, York, West Riding 1.
Board of Agriculture and Fisheries, June 18, 1912.

Period	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
IRELAND. Week ended June 15	...	...	...	...	...	...	...	...	2	...	1	4	27
Corresponding Week in	1911	...	...	...	...	...	...	...	1	...	...	1	79
	1910	...	...	...	...	...	...	...	2	...	3	3	84
	1909	...	...	...	...	...	...	...	1	...	1	3	43
Total for 24 weeks, 1912	...	2	2	...	...	...	...	...	41	254	128	1202	
Corresponding period in	1911	...	5	6	...	...	2	3	41	240	52	910	
	1910	...	4	7	...	...	1	2	36	332	52	1239	
	1909	...	3	3	...	...	...	...	46	278	37	606	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 17, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection.

The Wheatley Challenge Cup.

This Cup is awarded to the competitor obtaining the greatest number of marks at the R.V.C. sports, and thus constitutes the championship prize. The winner this year, as on several previous years, was W. F. Poulton.

CLAIMS OF VETERINARY SURGERY?

Sir,
Enclosed is a cutting from the *Western Morning News* of the 7th inst. which might be of interest to the profession. In view of the fact that the finances of the College are in a precarious condition, overtures should be made by the Finance Committee to the Trustees of the late Sir Julius Wernher for sums of money out of the residuary estate. The Royal College is surely an Educational institution and would doubtless benefit if proper representation of facts were made.—Yours, etc.,
JAS. FORBES.

Trafalgar Square, Truro, 13th June.

"Sir Julius Charles Wernher, who died on May 21st, left Estate provisionally sworn as under the value of £5,000,000.

Sir Julius also gives to his trustees a discretionary power to pay out of his residuary estate such sums as they should think fit, not exceeding £100,000, to such charities or charitable or educational institutions in England or elsewhere."

JOHNE'S DISEASE.

Sir,
I was very much interested in two recent contributions to *The Record* re Johne's Disease. Last year I had a case under observation with nothing remarkable about it except that the chief symptoms manifested themselves during the nineteenth week of pregnancy, viz., uncontrollable colliqu-

ative diarrhoea, capricious appetite, great thirst, and muscular wasting. In spite of every combination of astringents and tonics, this cow aborted in the twenty-sixth week of pregnancy, and died a month later.

At present I have another cow, four years old, under treatment at the same farm. She calved some weeks ago, and soon presented alarming symptoms—diarrhoea (faeces covered with air bubbles), muscular wasting, partial anorexia and thirst. I tested her with tuberculin, but obtained no reaction. I am experimenting with this animal, and lately have tried intravenous and hypodermic injections of Chinol-sol without any benefit.

If any of your readers know of any palliative treatment, let us hope they will record it.—Yours faithfully,

L. L. STEELE.

Beckermat, Carnforth.

INSPECTORSHIPS B. OF A. AND POST GRADUATES.

Sir,
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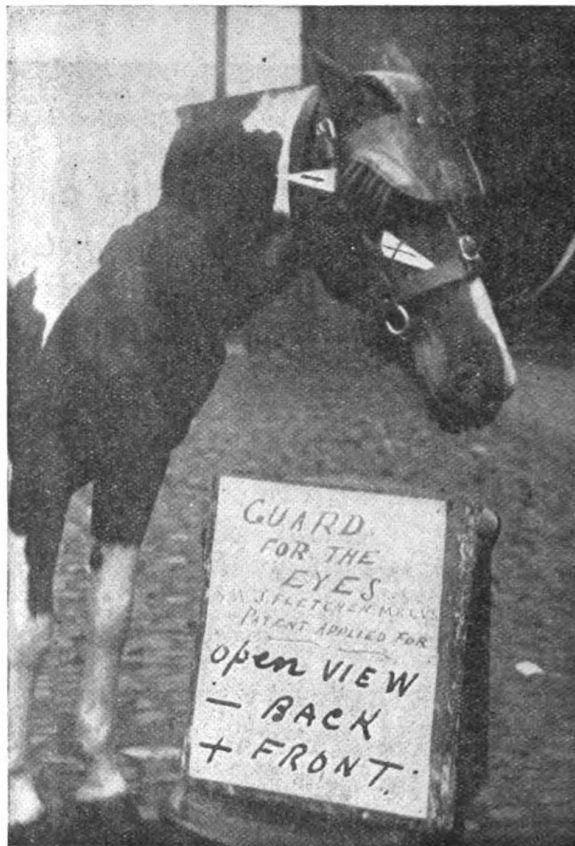
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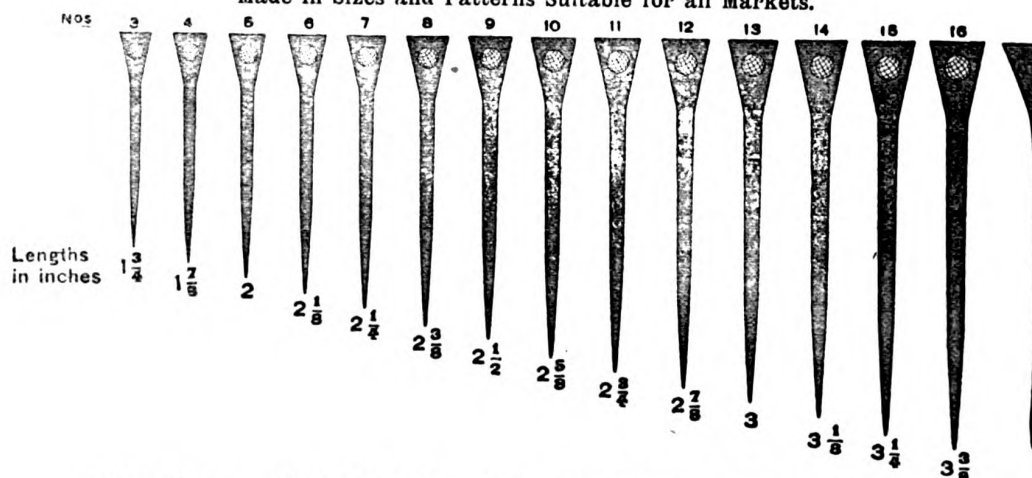
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JUNE 29, 1912.

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The Central Veterinary Society

A GENERAL Meeting will be held at 10 Red Lion Square, W.C., on Thursday, July 4th, at 7 o'clock. Agenda. Routine business: Morbid specimens, (Fellows are specially requested to contribute): To consider circular letter from the South Eastern V.M.A., re Kent County Council Inspectors' Fees. Impromptu discussion.
HUGH A. MACCORMACK, Hon. Sec.

South Africa

THE UNION GOVERNMENT of South Africa invites applications for a Lecturer in Veterinary Science at Potchefstroom Agricultural College, Transvaal. Applicants must be Members of the Royal College of Veterinary Surgeons and in addition to being capable of teaching Veterinary Science should have experience in Veterinary practice. Age not over 30. Commencing salary £350 per annum and quarters. Three years agreement. Free passage to South Africa. Apply, stating age, qualifications, etc., to "The Secretary," High Commissioner for the Union of South Africa, 32, Victoria Street, Westminster.

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As Locum or Assistant

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Wanted

FINAL years student for Scotch practice. One with some experience preferred. Board etc., in return for services or small remuneration if suitable. Address, 5069 V.R., 20 Fulham Road, London, S.W.

Assistant or Improver

WANTED, a young qualified man as junior assistant or improver, in country practice, live in. Apply, stating age, height, weight, salary required, etc. to Fred W. Watchorn, F.R.C.V.S., Newtown, Montgomeryshire.

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To Veterinary Surgeons

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President:

W. F. BARRETT, Esq., Fountain Court, Temple, E.C.

FUNDS are urgently needed to enable the Society to extend its relief to distressed Members of the Profession, or to widows and orphans of deceased veterinary surgeons. Annual subscriptions, or donations will be gratefully acknowledged by the Hon. Sec. and Treas.

W. SHIPLEY, Southtown, Great Yarmouth.

As Assistant.

CLASS C student (up in July) hard worker, and careful dispenser, desires post in busy country practice during the summer vacation. Former experience and good references. Free July 25th. Address, R. G., Royal Vet. College, London, N.W.

Wanted

A second assistant during the holidays, a qualified man, from Aug. 7th, to Sept. 10th. State age, terms and references. Address, 4061 V.R., 20 Fulham Road, London, S.W.

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NATIONAL VETERINARY ASSOCIATION,

President: WM. WOODS. F.R.C.V.S., Wigan.

The Annual Meeting will be held at the
TOWN HALL, MANCHESTER,
Wednesday and Thursday, July 24th & 25th
 Annual Banquet on the evening of Wednesday, July 24th.

The Provisional Committee have arranged for the following papers:—

Veterinary Education (pre and post-graduate) Maj. Gen. F. SMITH, F.R.C.V.S.

Discussion opened by Prof. SHARE-JONES.

Phalangeal Ostitis,

WM. HUNTING, F.R.C.V.S.

Discussion opened by Prof. MACQUEEN.

Bovine Tuberculosis,

Prof. DELÉPINE

Discussion opened by Prof. AINSWORTH WILSON.

Abdominal Surgery in Veterinary Practice,

Prof. WOODRUFF

Discussion opened by Prof. O'CONNOR.

On the 26th the members are invited by the Lancashire Veterinary Association to an Excursion and Picnic at Rudyard Lake in Staffordshire.

DRUGS, INSTRUMENTS, ETC. Those desirous of exhibiting should apply at an early date, stating space required, to—

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1251.

JUNE 29, 1912

VOL. XXIV.

THE SIGNIFICANCE OF THE COUNCIL ELECTION.

The Veterinary Surgeons' Bill is still awaiting its dubious chance of consideration during the present Parliamentary session; and we are forced to recognise that the Government's crowded programme renders it only too likely that we may have to wait another year before our measure obtains a hearing. In the meantime it may be useful to point out how completely the profession, at the recent election of Council, expressed approval of the Bill and its initiators.

Quiet as the election was, it was definitely fought upon the Bill. There were nine vacancies; and nine of the twelve candidates issued a joint circular asking for election in support of the Bill. All nine were elected; and thus, at first sight, the profession's approval of the Bill is made clear. But it becomes still more clear when we examine the political records of some of the nine elected candidates, and compare the votes received by elected and non-elected alike with those gained by the same men in former years.

Sir John McFadyen was President of the R.C.V.S. when the Bill was drafted, has supported it wholeheartedly from the first, and is now Chairman of the Annual Fee Committee. At this election he heads the poll with the highest number of votes recorded since 1896. Mr. Trigger, the originator of the idea of an Annual Fee, comes a good second. Mr. Garnett, who brought the matter to a head in 1907, was the first Chairman of the Annual Fee Committee, and has often been styled the "Father of the Bill," is third with over a thousand votes. Major-General Thompson, a supporter of the Bill from the first, and a member of the Annual Fee Committee from its inception, is fourth. Of the nine successful candidates, then, the four who are most closely associated with the promulgation of the Bill are placed at the top of the poll. Is it possible to imagine a more distinct mark of the profession's approval of the Bill, or a more emphatic vote of confidence in the men who brought it forward?

On the other hand, we find two opponents of the Bill—Prof. Dewar and Mr. Spreull—amongst the unsuccessful candidates. Each has previously contested an election against the Bill—in 1908 and 1909 respectively—and a comparison of their present with their past polls is instructive. Prof. Dewar was returned in 1908 with 936 votes. This year his figure is reduced to 671, and he is rejected. Mr. Spreull was one of the eight candidates who unsuccessfully opposed the Bill at the election of 1909. On that occasion he polled 630 votes, but this year he only secures 453; and this low figure of 453 has a further significance. In 1909 the

lowest vote recorded against the Bill was 539; and that total was obtained when the votes were spread over sixteen candidates. This year an opponent of the Bill is again at the bottom of the poll, but though the votes were divided amongst twelve candidates only he obtains but 453.

All these figures point unmistakably to one conclusion—that the opposition to the Bill is declining. Probably the main reason for this is an increasing recognition by the opposition that the Bill is really unavoidable—that no alternative method of securing the financial stability of the R.C.V.S. can be found. In the days when the Bill was a centre of controversy no effective alternative to its principle of compulsory contribution could be advanced; and naturally, as this became clearer, and at the same time the state of the College finances became more obvious, the opposition began to die away. The election just over proves finally that the Bill has ceased to be a controversial matter within the profession, and a close examination only emphasises the proof. The overwhelming majority of votes given to the Bill and to so many of its chief promoters is significant enough, and perhaps the quietness and complete freedom from excitement that marked the election is more significant still.

WHAT IS A CURB?

The above query is suggested as the result of perusing the expert evidence given in a recent Law case. Some of the experts spoke of curb as a disease affecting a "particular ligament." If this view was generally accepted, it would give to curb a more serious significance than it is justly entitled to, and it would be difficult to understand how the affection occurs in some instances in the absence of the usually accepted causes.

Any practitioner who has experience in examining young horses at shows must observe the number of cases of "slight curbs" that occur in animals that have never been handled or worked. So slight is the defect that in some instances a doubt may exist in the mind of the examiner as to the existence of the affection. The slight enlargement feels soft to the touch, and shows no heat or tenderness, and no lameness is present. Experience, however, teaches that such cases if untreated and put to work generally develop the ordinary curb, especially if the hock is of the formation known as "curby."

Now anyone considering the subject must doubt the view that curb depends on strain of the calcaneo-cuboid ligament. It is a well-known fact that many of these slight curbs, if treated, recover perfectly, and no evidences of the defect remain.

It would be interesting to inquire if the ligament has been actually found affected on post mortem examination, or whether this view of the pathology of curb is a purely theoretical one. Percivall (Hippo-pathology) appears to have made a special study of the subject, and points out that considerable wavering of opinion existed respecting the pathology of the affection, admitting at the same time that opportunities are seldom given to examine such cases post mortem. He regarded curb as due to "effusion into, or thickening of, the sheath of the flexor tendons," and drew attention to the anatomy of the parts concerned, pointing out that the perforatus tendon at the back of the hind leg was "clothed by cellular tissue, and by means of it connected with the parts around, and thus is confined in its place. In front of the tendon, in the midst of this enveloping tissue, is a serous bursa; while behind it, between its cellular investment and the skin, is a tendinous band to which has been given the name of annular ligament, whose glistening fibres are seen traversing the tendon, evidently for the purpose of binding it down, and so in action contributing not a little to its power and effect."

"Now if we, bearing this anatomical sketch in view, revert to the seat of curb, we shall find that the site of the tumour is directly opposite to the bursa in front of the perforatus tendon. Through this bursa or thecal cavity runs the perforatus tendon, and it is the play the tendons enjoy at this particular part, in consequence of the existence of the bursa and the looseness and paucity of their attachments, that causes sprain or laceration to be seated here; the part sprained or lacerated being neither the tendon nor the ligament, but the cellular sheath of the tendons." . . . "Effusion takes place . . . and probably pervades cellular tissue and bursa together. . . . What ultimately takes place in curb, and in fact constitutes the disease in the ordinary, inveterate or permanent form—being the consequence of interstitial deposit—is a hard, callous condition of the tumour, and this is the state in which horses are brought to us after inflammation has departed. It consists in a thickened and indurated condition of the cellular sheath of the tendons." Percivall gives an excellent plate, showing the dissection of a hock affected by curb, and the abnormal condition of the sheath of the tendons above described. He also admits that other morbid appearances might occur, due to a continuation, or a return, or a reproduction of the diseased action. In one case of apparent curb which he examined post mortem he discovered a thorn, half-an-inch in length, sticking in the substance of the perforatus tendon, precisely in the seat of curb.

I have ventured to give the above quotations from Percivall at some length, because they explain some important points in connection with the subject of curb. The small "soft" curb, so common in young horses, would appear to be due to effusion into the bursa mentioned. In fact it feels exactly as if this was the case, and certainly does not give one the idea of a lesion of the ligament. Moreover, the latter would not be so likely to disappear even with any form of treatment.

As regards the etiology of curb, if we accept the view of Percivall, it is easy to understand how the affection may occur in the absence of hard galloping or leaping. Sprain or rupture of the cellular sheath and bursa of the perforatus tendon is surely more easily induced than sprain of the calcaneo-cuboid ligament. Percivall records two instances where horses "threw out curbs" in the course of walking exercise, probably, as he points out, due to the animals being fresh and jumping about.

I met with an instance lately in which a 5-year-old huntress was sent to my infirmary for treatment for a simple ailment, and after being in the stall for a few days she threw out a curb. The owner could not understand it, but I pointed out that it was an example of how easily such affections may occur, and that had I examined the animal for soundness prior to her arrival, nothing would have convinced him but that she was unsound prior to purchase.

Is an enlargement on the seat of curb always due to curb? Certainly not if it arises from an injury such as is of common occurrence in hunters.

Apparent enlargements in the postero-external aspect of the hock, due to well-developed prominences on the bones, are frequently mistaken for curb, even by those who pride themselves in their horsey knowledge. Very often it is the candid friend, who after lunch on a Sunday is taken to see the new purchase, and points out that the animal has a curb; he may even say that he detects evidences of blistering. The result is that the horse is sent to the V.S. who has examined him, with an irate letter complaining of negligence. This is not an uncommon occurrence, so that it is certainly advisable to point out to the purchaser any peculiarity in the formation of the hocks, and so prepare him for the opinions of the horsey critic.

Similar remarks apply to the question of "coarse" hocks.

I should much appreciate a discussion on the etiology and pathology of curb, especially if those who give their views have had the opportunity of examining specimens of hocks affected with this disease. If it be the case that curb exists in various forms, it would be interesting and useful to obtain definite information on the matter.

E. WALLIS HOARE, F.R.C.V.S.

PARALYSIS IN THE DOG, CAUSED BY HEART DISEASE.

History.—The subject was a ten-year-old Dandy Dinmont terrier, which according to its owner had been quite well and bright up to the time of its seizure. Within an hour-and-a-half of his last seeing the dog apparently well, it was reported to him as unable to stand, and dragging its hind quarters.

I was asked about the dog. Advised a purge, and expressed a desire to see the animal. It was brought to me on the third day of its illness for my decision as to the value of treatment.

Symptoms.—The dog was completely paralysed behind a point corresponding to the 11th Dorsal vertebra. The pulse was slow and regular. Temperature 101° F. Mucous membranes injected and bluish. External temperature of paralysed parts was slightly raised. Urine was seen dripping involuntarily from the prepuce, and on manipulating the abdomen the bladder was found extremely distended. It was easily evacuated by pressure. No impaction of the bowel could be felt, and was not expected, because I was informed by the owner that the purge (castor oil) had been very effective.

Considering the dog's age, and the generally chronic course of these disturbances, I advised destruction.

Post mortem examination.—All organs were apparently healthy except the heart, spinal cord, and prostate gland.

The pericardium was normal. The heart was not enlarged. The myocardium of the left heart, just below the Coronary groove, showed a light, buff-coloured spot, denser in consistence than the rest of the wall. On section of the wall the buff spot was found to extend through its thickness. It was tendinous in consistence, circular in outline and the size of a halfpenny.

The mitral (Bicuspid) valves were inflamed, thickened and showing on their edges proliferations of a pinkish colour, resembling granulation tissue. The largest was the size of a horse-bean. The Tricuspid valves showed similar but more extensive lesions than those of the mitral. The semilunar cusps of the Aortic valve were inflamed but showing no new growths. Here was evidently an endocarditis passing into the chronic state. There were no lesions of interest in the other organs, except an enlargement of the prostate gland.

Spinal Cord. The cord was removed from about the 6th Dorsal vertebra to its termination. The vessels (veins) were found extremely injected. The cord itself was very soft and pulpy, the posterior part almost creamy in consistence. A portion of the lumbar cord was intensely inflamed for about an inch of its length. The paralysis was then most probably due to changes in the cord brought about by venous hyperæmia of the spinal medulla. The hyperæmia of the cord was caused by dilatation of the heart following on valvular defects.

J. R. HODGKINS, Capt. A.V.C.

Dundalk.

ABSTRACTS FROM FOREIGN JOURNALS.

TUBERCLE BACILLI IN THE GALL OF TUBERCULOUS ANIMALS.

Joest and Emshoff report (*Zeitschr. f. Infektionskrankh. u.s.w. d. Haust.*) a series of observations they have made to determine the presence or otherwise of tubercle bacilli in the gall of tuberculous animals. Fifty-seven tuberculous animals were examined (26 cattle and 31 pigs), and the galls of

these were tested by inoculations into guinea-pigs and by examination of smear preparations. Most of the cattle and pigs observed were suffering from generalised tuberculosis; and in all cases either tuberculosis of the liver or at least a tuberculosis of the portal lymphatic glands was present. Altogether the presence of tubercle bacilli in the gall was demonstrated in fourteen cases (= 24.5 per cent. of the subjects observed). Six of these fourteen cases were in cattle and eight in pigs, the percentages of cattle and pigs respectively thus being 23 and 25.8. As in no case could a tuberculous affection of the mucous membrane of the gall bladder or of that of the larger excretory ducts be demonstrated, the bacilli in the gall must have passed out into it from the liver—that is, from tuberculous lesions in the latter organ.

The presence of tubercle bacilli in the gall naturally ends in their excretion into the intestine, and thereby into the open air. *Tuberculosis of the liver is therefore, in many cases, an open tuberculosis.* The significance of open hepatic tuberculosis in the dissemination of infection to other animals and to milk is equal to that of open intestinal and pulmonary tuberculosis.—(*Berliner Tier. Woch.*).

CONGENITAL DIAPHRAGMATIC HERNIA OF THE STOMACH AND SPLEEN IN A HORSE.

Lesbougries records (*Revue Vétérinaire*) a case of a horse which showed symptoms of influenza, with pulmonary obstruction upon the right side. Auscultation revealed borborygmus upon the same side. Despite treatment, the animal died three days after the commencement of the illness.

Post mortem examination revealed the following lesions. The opening of the thoracic cavity permitted the escape of a considerable quantity of alimentary material. The stomach and the spleen were found under the right lung. These two organs had become totally prolapsed into the thorax, forming a diaphragmatic hernia. An *ante-mortem* rupture, about 2 to 2½ inches long, was found upon the lesser curvature of the stomach. In the centre of the aponeurotic portion of the diaphragm was a circular opening of eight inches in diameter, regularly rounded in almost all its circumference except to the left, where it was torn. Its edges were smooth, thin, and pearly white in colour.

The author advances the following view as the most acceptable hypothesis to account for the lesions found. The horse had been affected with congenital hernia of the stomach, and was therefore particularly predisposed to contract a gastric indigestion. The stomach, the peristaltic action of which had already been enfeebled by the effects of influenza, had become surcharged. From its weight, it had fallen further forwards into the thoracic cavity, forming an acute angle with the duodenum which arrested the passage of aliment.—(*Annales de Méd. Vét.*).

W. R. C.

[Nothing is said of the age or the previous history of this horse.—*Transl.*].

CENTRAL VETERINARY SOCIETY.

A meeting was held on Thursday, June 6th, 1912, Mr. R. J. Foreman, President, in the chair. The following members signed the attendance book:—Messrs. B. Gorton, Wm. Hunting, P. W. Dayer Smith, R. Bryden, J. Willett, N. Almond, Alex. Crabb, J. F. Macdonald, W. Perryman, H. D. Jones, J. W. McIntosh, Prof. G. H. Wooldridge, G. Gordon, A. Neish, R. F. Wall, F. O. Parsons, G. H. Livesey, Wm. Willis, J. Rowe, G. Upton, Prof. J. Macqueen, and Hugh A. MacCormack, Hon. Sec.: as visitors, R. W. Williams, E. S. Farebrother, and F. Ware.

The minutes of the previous meeting were taken as read and confirmed.

A letter was read from Mr. Coleman suggesting that in connection with the discussion to take place on the fees allowed by the War Office for veterinary surgeons might be included the fees paid by County Councils to the veterinary inspectors under the Contagious Diseases (Animals) Act.

The SECRETARY said he had written to Mr. Coleman saying he did not see how both subjects could be taken together, and asking Mr. Coleman to bring the matter forward as a proposition for the next meeting.

MORBID SPECIMENS.

Mr. H. D. JONES exhibited some dorsal vertebrae from a horse which had slipped down and broken its back in the region of the lumbar vertebrae. On examining the spine he found the condition shown, which might be either a simple exostosis, a malignant growth, or tubercular.

Mr. MACDONALD showed the bones of the hind foot of a van mare with the following history. The mare brought the van home one evening, but the next morning was found on three legs, and in a few days pus formed in the sole, about an inch in front of the frog, and later on the discharge became distinctly carious. After about three months treatment she became sound again, and went to work for another six months, when she suddenly dropped dead in the street of ruptured heart, and he had the chance of getting the foot. The fracture of the pedal bone extended into the articular surfaces, of which there was ulceration.

The evening was devoted to impromptu discussions, the first being a point raised by Mr. Hunting on

WHAT IS THE SIGNIFICANCE OF A LONG STRIDE ON A LAME LEG?

Mr. HUNTING said as a rule when a horse was lame he stepped shorter with the lame leg, but there were a few cases in which a horse took a long step with his lame leg. He remembered one horse who took a long step with a front lame leg, and two others who took long steps with a hind lame leg, and one of the latter had now developed a distinct ringbone on the coronet. He thought the worst position for that horse would be when he put his weight upon his leg, and therefore merely taking a short step would not avoid it so well as taking a long one, where the heel came to the ground first. It was a very rare symptom, and he really did not know the significance of it, but he thought a meeting of practical men might possibly give some explanation. The late Prof. Williams distinctly mentioned a long step as a symptom of ringbone in the hind limb.

Mr. ALMOND had not noticed a long step in the fore limbs, but had frequently noticed them in the hind limbs, and usually associated with it lameness in the foot. If a horse was very lame in the foot of a hind limb he always put it very forward before he placed it on the ground.

Mr. WILLIS had noticed a long stride in the hind limb constantly associated with lameness in the front part of

the foot, or at any rate below the fetlock. A ringbone, or sandcrack, or horn tumour in that region would give rise to a long stride. In the fore limb he had noticed a long stride after recovery from dropped elbow or radial paralysis. He thought it also occurred in cases of destructive arthritis of pedal joint—most markedly when hind foot was affected.

The PRESIDENT said most cases he had seen had been in Keratomas: buttress foot and sand-crack, and it had been more pronounced in the latter than anything else, or at any rate the animal tried to make the long stride, making the attempt and drawing back the foot before putting it down.

Mr. PERRYMAN thought the expression long stride was a little misleading. The forward stride he had always looked upon as the evidence of the animal trying to throw the weight of the body on to the back parts of the limb, which was characteristic of some anterior lameness. He would rather put the question: Is the stride longer, or does the horse start further forward with his stride? He should like to know if Mr. Hunting had measured the stride to see whether there was really a longer stride than with the other limb.

Mr. HUNTING said he did not think he could have been deceived from the observation of his eye.

Mr. PERRYMAN said the horse started the stride with the limb well underneath the body and the stride appeared to be longer, but his impression was that it was only an appearance.

Mr. HUNTING said it was questioned by some pathologists whether the horse could take a stride with one limb longer than with the other.

Mr. WILLIS said it was a crab-like movement if the animal took a longer stride on one side than the other. If the horse moved with longer strides on one side than the other it would be really going in a circle.

Mr. NEISH said every horse that was lame behind, if it had any pain in the foot, would naturally take a longer stride with the lame foot than with the sound one, for the simple reason that when he had the weight on the lame foot he quickly put the other one down to lessen the pain.

Prof. WOOLDRIDGE asked whether Mr. Hunting had formed any views for himself.

Mr. HUNTING said he had not.

Mr. WALL thought the action of the forelegs prevented the animal going in a circle such as Mr. Willis mentioned.

Prof. WOOLDRIDGE said that the only step that was in reality a long step or a short step was the first step taken from the stationary position, both feet being level at the moment of starting. If it was a short step the horse must of necessity bring the leg further forward next time to compensate for a short step, otherwise he must go round in a larger or smaller circle, or leave that leg behind, an obvious absurdity. The whole thing was an optical illusion with regard to the relative positions of the two legs when they were on the ground. The actual steps after the first one being of equal length.

The PRESIDENT said the easiest way would be to measure on soft ground the steps of the next lame horse seen.

OCULT SPAVIN.

The subject of occult spavin was drawn, and opened by Mr. Almond, who said he had met with a good many lamenesses in the hind limb which he had attributed to that cause, and had always found them extremely intractable. There were various theories as to the origin of occult spavin but he had nothing original to add to them. He had usually come to the conclusion that he had an occult spavin to deal with when the lameness had been more or less continuous in the hock and the pain was greater after exertion. In ordinary spavin a moderate amount of exercise was generally attended with

an improvement in the gait of an animal, but as a rule a horse with occult spavin was just as lame after exercise as he was before. The ordinary spavin with external exostoses he had usually found to respond to rational treatment, but the same could not be said of ulceration of the articular surfaces of the hock joint, which might be the gliding joints.

Mr. WILLIS said the treatment of spavins, whether ordinary or occult, in his hands had been pretty well unsuccessful. He did not think any treatment of occult spavin in the ordinary way was of any use; it was simply a question of putting the animal at such work as he could do. He remembered driving such a horse as a trapper. The animal had ulceration in both hock joints and he drove it for six or eight months in light work, and then it became so sound that he worked it for another three years in a bus. In that animal he did not believe there was a gliding joint in the hocks that was not ulcerated. The worst thing that could be done was to work such a horse hard one day and then hang him up another day. He believed the diagnosis of occult spavin was soundness after a period of rest. He had a notion he could diagnose occult spavin, but he could not explain how it was done.

Mr. Upton had noticed that spavin cases were more or less hereditary, and he looked upon ulceration of joints as rheumatoid. He thought the tendency in the system might be bred out. He had a mare now that was always lame in the hock, and she had a colt two years old showing the same affection, although the father was one of the best horses. He admitted that extra strain would cause trouble, but believed that if the cause of the ulceration of the cartilages could be found it would be discovered that the tendency was bred in the animal.

The next draw for a subject resulted in

FOUL MOUTH IN THE DOG.

Mr. ALMOND said he had a great difficulty in dealing with such a condition. He had often found it associated with deposits on the teeth, loose teeth, ulcerated gums, ulcerated tongue, etc., but when all those conditions were removed, in a great many cases the foul mouth still existed, notwithstanding the great variety of washes, deodorisers, disinfectants, and other agents used. The condition was sometimes found in young dogs, two years old. He should like to know whether the foulness arose from the mouth or the stomach, or from both.

The PRESIDENT had had a number of cases which it had been absolutely impossible to do anything with at all, and the condition had not been due to the teeth. Very often he had found it in conjunction with a cough which he took to be a stomach cough. Bismuth, and that kind of thing did not seem to have any effect. He thought the breath itself was offensive because when the animal coughed the condition was generally worse. A course of stomach alteratives was about as good a thing as anything after the mouth had been seen to. But even after the mouth had been cleaned out there was still the odour, so that he thought it must come from the stomach.

Mr. MACCORMACK said in his experience if an animal's gums were not ulcerated nor the teeth bad, and the offensive breath was present, one could not do better than give some ordinary willow charcoal in 5 to 10 grain doses once a day. He had several cases a short time ago in which by that treatment the disease disappeared after giving half a dozen powders. Of course a little aperient medicine must be given, but dependence should be placed on the powder.

The PRESIDENT said he had tried the charcoal treatment in two cases but had given it up.

Mr. J. WILLETT said there was no doubt in his mind that it was stomach derangement. It was never found in a dog with clean teeth, and was found mostly in the

toy dog. It seemed to him chronic indigestion, and the trouble could not be stopped without stomachics. He found bismuth and soda tabloids, if continued long enough, got rid of the condition. In small dogs the teeth were seldom used in mastication, everything being prepared for them, and accordingly they bolted the food without using the teeth.

Prof. WOOLDRIDGE thought in the majority of cases the condition was due to tooth trouble, but in some cases it was not so, and he agreed with Mr. Willett in regarding many of those cases as due to indigestion or gastric catarrh. If one looked carefully at the teeth a little deposit, not exactly tartar, but a very soft furry substance, such as was found on the tongue, would be discovered, and he thought it was usually associated with that condition. The treatment Mr. Willett had indicated was the one he generally practised, giving in the first instance a dose of calomel and following it up with carbonate of bismuth and bicarbonate of soda, and using a mouth wash consisting sometimes of boracic and glycerine in water, and sometimes hydrogen peroxide in water. Attention to the diet was very necessary, and especial attention should be paid to mastication and the flow of secretions in the mouth.

Mr. ALMOND said he found excessive saliva in such cases, and attributed the collection of tartar upon the teeth very largely to that fact. The cases he had referred to were not those relieved by the treatment suggested, but cases which persisted month after month and year after year, and which nothing would relieve. There were no symptoms of indigestion in such cases.

Prof. MACQUEEN said he knew a little about bad breath in the dog, and in his experience the majority of the cases were due to local changes in the mouth. He was not quite so sanguine of success in treating mouth cases as Mr. Almond, who must be able to restore the condition of the dog's mouth very quickly. What he should like to know was how Mr. Almond managed to restore a dog's mouth to health by attending to the accumulation of tartar on the teeth and the extraction of a few loose teeth. In his experience the disinfection of an old dog's mouth was never successful. It would be necessary to extract all the teeth and to fill all the empty alveoli, and pursue treatment for a long while. He was sceptical as to offensive odours arising from the stomach owing to indigestion; it was a convenient way of explaining a difficult position, but by no means satisfactory to say that if a dog had an offensive breath it arose from indigestion. If the odour was due to the generation of gases in the stomach perhaps someone would name an offensive gas that proceeded from the dog's stomach. The complaint made by the owner of the dog was that the breath was abominably offensive, and that was not due to indigestion but to changes either in the mouth or in the throat. He suggested that an examination should be made of the dog's throat, because in some instances he thought a material would be obtained from the mucous lining of the throat which would prove to be the cause of the offensive smell.

Mr. JONES asked whether it was possible that the odour might come from the lungs.

Prof. WOOLDRIDGE had noticed that a very large number of cases of acute gastritis in the dog began with pharyngitis and a cough. Pharyngeal trouble in no way negated the presence of gastric trouble.

Mr. WALL said it was a most difficult matter to treat, but he had had great success from the use of aniodol. The teeth were properly cleansed, and the mouth put in good condition, and once or twice a day the teeth were brushed over with a solution of aniodol. It was a powerful deodorant and antiseptic, and had a very wonderful effect.

Mr. ALMOND also referred to malodorous skin in an otherwise healthy dog, which he had treated with a considerable amount of success by small doses of sulphur

twice a day. He thought the secretion from the skin decomposed and emitted an offensive odour.

Prof. MACQUEEN asked what was the secretion from the skin.

Mr. ALMOND said they differed under varying circumstances: there was perspiration for one thing from the sweat glands, and there were also sebaceous glands which discharged on to the skin.

Prof. WOOLDRIDGE asked whether there was any particular odour Mr. Almond regarded as being diagnostic of mange.

Mr. ALMOND said there was.

Mr. J. WILLETT said he had always been given to understand there were no sweat glands in the skin of the dog, that the dog perspired really from the tongue.

Prof. MACQUEEN asked whether it was a fact that the dog perspired from the tongue.

The PRESIDENT said he had seen one or two cases where there had been a dew on the hair of the dog, and was under the impression they were rather painful cases.

Prof. WOOLDRIDGE said his knowledge of the histology of the dog's skin was not very great, but he knew of no sudoriferous glands in the dog's skin. The generally accepted view is that dogs perspire from the pads of the feet and from the muzzle. He did not see why indigestion should not be blamed for the cutaneous odour in the same way as for odour of the mouth. The vast majority of cases were due to a skin lesion, and the next most common trouble was with the kidneys, and then the alimentary canal.

Votes of thanks having been passed to those who had brought forward morbid specimens, the meeting adjourned.

HUGH A. MACCORMACK, Hon. Sec.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A meeting was held in the Imperial Hotel, Darlington, on Friday, June 7th. Mr. W. Awde, Stockton-on-Tees, President, in the chair. There were also present: Messrs. G. R. Dudgeon, Sunderland; A. C. Forbes, Bishop Auckland; W. H. Blackburn, South Hetton; C. G. Hill, and J. H. Taylor, Darlington.

It was proposed by Mr. Hill, seconded by Mr. Dudgeon, and carried unanimously that the minutes of the previous meeting be taken as read and confirmed.

A letter was read from Mr. Blackburn which intimated that on account of removing to South Hetton he was afraid that he would not be able to attend the meetings, and that he would have to resign his membership of the Association.

General regret was expressed by those present, and Mr. Blackburn stated that although it was difficult for him to attend he would, however, still continue his membership and attend as many meetings as he could.

A letter was read from Mr. P. B. Riley, of Barnard Castle, regretting that he could not be present at the meeting, but that he hoped to attend the next meeting, and would be pleased to become a member of the Association.

The SECRETARY reminded the members that the meeting of the Royal Sanitary Institute took place at York from July 29th to August 3rd at which meeting the Association were to be officially represented by the President.

The SECRETARY presented the report and accounts of the Victoria Veterinary Benevolent Fund, and said that it came as a surprise to him that so much distress occurred amongst old members, and amongst the widows and children of veterinary surgeons. Although the

Association gave £2 2s. each year he hoped that individual members might be inclined to subscribe to so good an object.

Mr. P. B. RILEY, M.R.C.V.S., Barnard Castle, was nominated a member of the Association, on proposition of the Secretary, seconded by Mr. Blackburn, and unanimously carried.

CLINICAL CASES, ETC.

The SECRETARY produced the heart and pericardium of an Irish terrier which he had recently had under treatment. The patient was first seen by him about Christmas last year, when it was brought to the surgery suffering from a cough of an asthmatical character; the respirations were not much altered, and the pulse and temperature were about normal.

The dog was much improved after treatment in a week or so, and was not seen again until about March, when a message was received that the dog was worse. It appeared that the dog had not seemed so well for a few weeks, the cough having returned, and the breathing had gradually become hurried.

On examination the dog appeared to be suffering from asthma, the pulse was about 90, and the temperature 103 F. As time went on the breathing became worse and assumed the boat-like character seen in hydrothorax, the pulse became much quicker, and the dog commenced to lose flesh. On careful examination no fluid could be detected in the chest, and there were no oedematous swellings in any part of the body. In a few days the dog became much worse, the heart beats were quicker and smaller in character, and the dog would prop himself up against a chair or table leg and go to sleep, being unable to lie down in comfort. Recovery appeared hopeless, and the dog was destroyed.

On post-mortem a good pint of fluid was found in the heart sac, which showed well marked pericarditis, and the lungs were emphysematous, but there was no fluid in the chest cavity.

Mr. HILL said that he had recently had a case of hydrops pericarditis in a dog, which had followed the removal of an infective growth from the penis. In spite of all care which he had exercised in the operation, septic trouble commenced, and fluid formed in the pericardium. In this case, however, the presence of fluid was suspected, as oedematous swellings commenced to form about the throat, prepuce, sheath, and legs.

Mr. BLACKBURN showed two calculi taken from the bowels of an aged pony, 17 to 18 years old, which died after being ill only a few hours. The pony had had colic once or twice, but these attacks had soon passed off when treated.

Mr. FORBES said that he had taken three very large calculi from the bowels of a horse which had shown no pain until a few hours before its death. This animal had been ill for a week and beyond having no appetite and appearing dull, presented no other symptoms.

Mr. AWDE showed a curious specimen of a young pig which had two bodies with four legs each, but only one head. The bodies were joined together, but the legs were free; the bodies were those of females. He had come across the specimen when making a post mortem on a sow which had died, and had been reported as a suspected case of swine fever. The cause of death was septic metritis.

Mr. Awde also showed the pisiform bone of the off knee of a six-year-old horse which had been bred by himself. It was a particularly promising animal, and had won prizes in the show ring, but when three years old was kicked on the knee. All treatments were tried to check exostosis, such as blistering, firing, and all kinds of so-called bone absorbents, but no good resulted, and although after rest and treatment the horse went sound for a little time, lameness soon appeared. The horse was destroyed and a post mortem made, which

resulted in finding the pisiform bone much enlarged from new formations.

SEPARATION OF COLON AND RECTUM IN A MARE.

Mr. HILL said that he had recently had a very uncommon case in a mare. She foaled on the Monday quite normally and seemed all right until the following day, when she had a little pain and he was sent for.

On arrival he was informed that she had not passed any faeces, and he found on examination that there was a small tear in the vagina, but otherwise she seemed all right. On passing his hand into the rectum he found his hand in a large sac, and it was with much difficulty that he found the entrance to the floating colon; when he had passed his hand through the opening it closed upon it, and in withdrawing his arm the bowel closed tightly round his wrist. The bowel was drawn out through the anus, and he had to liberate his hand by gradually pushing away the bowel with the other hand. The mucous coat of the bowel was a deep purple in colour. The mare groaned a good deal and seemed to have pain when this was done. He left some chlorodyne to be given if the mare had pain, and nuxvomica, ammon. carb. and sodæ bicarb. to be given if she was easy.

The mare lived for a week and during that time took a little mash and grass daily, but excepting a few small lumps passed no faeces. She had no pain of any consequence, and was eating up to a short time before she died, although towards the end of the week her pulse became rather rapid, but the visible mucous membranes kept a good colour all the time.

On post mortem, all the organs were healthy except the colon and rectum, which were separated from each other, the ends of the bowels being free and gangrenous. He thought that the mare when straining at the time of foaling had caused an intussusception of the bowels, and as time had gone on sloughing had taken place at that part.

Mr. FORBES thought this a most interesting case and illustrated once more that pulse and temperature were little to guide one in bowel cases, for whereas text books usually associated colic with a fairly good pulse and no increase in temperature, and enteritis with a bad pulse and high temperature, here we had a case where at sometime during the illness there must have been enteritis, and yet the pulse and temperature were very little altered.

He had a somewhat similar case in a cart horse about 17 h.h. The message he received was that the horse was very bad with inflammation. He took the necessary medicines, found the horse standing perfectly quiet, and on inquiry found that he had not had any pain, but would not eat. The pulse, temperature, and respirations were normal. He diagnosed the case as one of indigestion, and administered a physic ball on the Thursday. He was surprised to receive a post-card to say that the horse was dead. He went to the knacker's to make a post mortem, but unfortunately all the organs had been destroyed excepting a portion of the large bowel, which was black from mortification, similar to what one might get in a twist. It certainly seemed strange that an animal should show such post mortem lesions, as when he saw him only twelve hours before he died he was in the condition he had described. Of course something else might have been wrong, but the knacker assured him that, with the exception of the bowel, all was in order.

Mr. HILL said that he was called to a mare foaling, between four and five the other morning, when it was raining heavily, which was not a pleasant job so early in the day. He got the mare into a box, and found the foal's head was a little turned backwards, and it had a foot turned back. It was a simple case, and delivery was accomplished in a few minutes; the mare seemed

perfectly right afterwards and commenced eating a mash. This was about 7.30 a.m., and she kept all right up to noon, and was left eating, and to all appearances well. But on the men coming to the box an hour later the mare was dead. He had not an opportunity of making a post mortem, but it was a very disappointing case.

Mr. BLACKBURN had recently had rather an interesting case in a pit pony which had been ill some time. It had been passing blood in the urine for months, and had been treated with many remedies before he saw it. As recovery did not seem probable he had the animal destroyed. He found on post mortem malignant disease of the bladder of a septic character, the disease having affected the perineum, so that slaughter in this case was quite justified.

ELECTION OF OFFICERS.

President. Mr. W. AWDE, F.R.C.V.S., Stockton-on-Tees. Proposed by Mr. Hill, seconded by Mr. Blackburn.

Vice-Presidents. Mr. C. G. HILL, M.R.C.V.S., Darlington, and Mr. J. M. WALKER, F.R.C.V.S., West Hartlepool. Proposed by Mr. Blackburn, seconded by Mr. Forbes.

Secretary and Treasurer. Mr. J. H. TAYLOR, F.R.C.V.S., Darlington. Proposed by Mr. Awde, seconded by Mr. Dudgeon.

Auditors. Mr. W. N. DOBBING, M.R.C.V.S., Darlington, and Mr. C. G. HILL, M.R.C.V.S., Darlington. Proposed by Mr. Dudgeon, seconded by Mr. Blackburn.

Mr. DUDGEON said that he had a very important matter to mention in that he wished to know whether there was going to be another picnic this year. He hoped that there would be, for he was certain that although the one held last year was the first held in connection with the Association, it was a great success, and speaking for himself he could say that he never enjoyed a day more in his life.

The SECRETARY remarked that at the last picnic he thought the then President, Mr. Dudgeon, had suggested that they should take the Yorkshire Dales in turn each year, and that both Swaledale and Wensleydale were within easy reach. He might remind the members that the ladies who went last year expressed the hope that there would be a picnic each year, and if one was held this year he would be pleased to help in any way.

All the members present being in favour of a picnic, it was proposed by Mr. Dudgeon, seconded by Mr. Forbes and carried unanimously that one be held this year, and that Messrs. Dobbing, Hill and Taylor be appointed a committee to make the necessary arrangements.

The members subsequently had tea together in the hotel.
J. H. TAYLOR, Hon. Sec.

NORTH OF IRELAND VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held in their Rooms, Davenys Chambers, North Street, Belfast, on Thursday, 30th May, at 7 p.m. The President, Howard McConnell, M.R.C.V.S., Armagh, occupied the chair. The following members were present: Messrs. F. R. McRoberts, J. Ewing Johnston, W. C. M. Smith, J. J. Ross, J. McLean, J. A. Thompson, J.P., Henry Gibson, James Hughes, James Gregg, John L. Orr and J. A. Jordan.

The minutes of the previous general and special meeting having been read and confirmed were signed by the President.

CORRESPONDENCE.

A letter from the successors of Messrs. John Clarke and Co., Ltd., Belfast, Surgical Instrument Makers and Chemists, stating that they wished to acquaint the members of the fact that they specially catered for the members of the veterinary profession, and that they

would be glad if the members of the North of Ireland would grant them a share of their patronage.

From Capt. J. Nicholas, A.V.C., informing the Association that as he was under orders to sail for India, he very much regretted having to tender his resignation. The resignation was regretfully accepted.

From Mr. Gofton requesting the Association to elect its representatives on the Council of the National Association and to forward their names and addresses to him at an early date.

The matter was referred to Council.

From the Secretary of the Victoria Veterinary Benevolent Fund, Mr. W. Shipley, F.R.C.V.S., Great Yarmouth, drawing attention to the objects of the Fund, and requesting the members of this Association to give their individual support, and to help in every way in their power to further the objects set forth.

Mr. W. C. M. Smith proposed that those members who were in arrear with their subscription to the Association for three years be struck off the list of members. This was seconded by Mr. McRoberts and after discussion passed unanimously.

PRESIDENT'S ADDRESS.

HOWARD McCONNELL, M.R.C.V.S., Armagh.

Gentlemen,—My first duty is to acknowledge my sincere thanks to the members of this Association for the great honour they have conferred in electing me to the highest position they have in their power to bestow. As a comparatively junior member of the profession, and as one in the ranks of the country practitioners, I am fully conscious of how small my claim is to such a position of honour. I accept my office as a grateful recognition of the small but earnest part I have taken in endeavouring to promote the welfare and successful organisation of this Society, which it has now become, filling a long-felt want, beneficial to the veterinary profession in the North of Ireland. At the same time our Society should be much stronger both numerically and financially.

Several advantages are derived from a Society such as this. In the first place it creates a feeling of good-fellowship amongst its members. Men anxious to get on in life meet together for mutual improvement; peculiarities are toned down, rough edges are smoothed, and a higher standard of manners and morals is created, thereby raising the level of thought and opinion amongst those who compose the memberships.

Secondly, a society encourages the habit of reading and thinking. If you have a subject or topic proposed for speech or essay the members present endeavour to say something that is correct and comprehensive about it: they acquire an accuracy of opinion upon that particular topic which may be most useful. At times, as the result of such discussion, they forward recommendations to those quarters where they may take effect, therefore the habit of thinking and reading is cultivated and strengthened. Then again you have the acquirement of ready speech. I trust the members will endeavour to attend, as the best recompense your officials can receive is a full attendance at all our quarterly meetings. I know it is often difficult to get away, but there can be no excuse for continued absence year after year. I say, without doubt, that members meeting at an Association such as ours is most beneficial—not only to the members themselves but to the profession. It makes us all meet as colleagues and not as opponents. It is customary, but I do not propose to say much on veterinary politics. We all deplore the financial state of our corporate body, although we in Ireland as far as my knowledge goes have not derived any benefit from that body. We are opposed in our daily practice by men holding foreign diplomas, by unqualified assistants doing work which

should be entirely in the hands of qualified members, and above all qualified members are allowed to outstep the bounds of all professional etiquette and go about lecturing upon all diseases and their treatment, on the application of the tuberculin test, and even so far as to instruct the farmer how to perform certain operations. Does our Council consider this proper conduct? Or is there one law for the rich and another for the poor? Such lectures to my mind are only creating quacks and handicapping the qualified man, as often the professional man is not called in until the poor animal has been subjected to all forms of quackery and torture, and is either dead or dying. Lectures confined to veterinary hygiene would benefit a locality, more particularly where the small farmers are not within reach of veterinary aid, but lectures and demonstrations upon subjects such as Hernia, Abscess formation, Disease of bones, etc., delivered in districts where veterinary surgeons are within 4 or 5 miles radius, are to my mind a burden on the rates, no benefit to the farmers, and only laughed at by the medical profession.

The amalgamation of our various societies is practically accomplished, and to my mind it is a step in the right direction, as the veterinary profession can now present a more solid front for or against all things affecting its interest. In the branches of all professions and trades the tendency of to-day is strongly towards co-operation, and to my mind there never was a time in the history of our profession when there was a greater need for absolute unity; I ask you to look back and see what the veterinary profession has done in eradicating contagious diseases from Great Britain, and more particularly from the shores of Ireland; could this have been done without the co-operation of the local veterinary inspector reporting to the proper authorities and immediately isolating the infected area.

Concealment and not having the courage to face a calamity undermines that which all civilised nations are now striving after, namely, health stability: more precious than financial or commercial stability. Should there be a weak spot in the sanitary organisation of any country, the policy of to-day is to strengthen it, and it is the only policy compatible with commercial progress. Concealment, whether in individuals or communities, leads invariably to the disease smouldering and spreading, and to an ultimate conflagration; then the final results are infinitely worse than the expenditure of the little firmness and moral courage necessary at the outset. This has been the invariable experience of larger communities when face to face with threatened epidemics. Boldly notify the first case, and let the sanitary organisation be so armed that implicit reliance can be placed upon it, and in all probability the first case notified will also be the last one. How can these words be acted upon without the co-operation of all officials connected therewith.

In relation to State and municipal hygiene—especially the latter—and in order to guard the interests of the public health, co-operation between the veterinary and medical officer is essential for the necessity of placing the inspection of both meat and milk on an organised basis, and under properly trained experts.

I trust some of our members will come forward and assist both by papers for discussion, specimens and notes on cases, etc., and above all by a regular attendance at our meetings.

A hearty vote of thanks to the President for his interesting address was ably proposed by Mr. J. B. Dunlop, seconded by Mr. J. Ewing Johnson, and passed by acclamation.

The PRESIDENT thanked the members for the hearty manner in which they had received his address.

HEREDITY IN RELATION TO DISEASE.

J. B. DUNLOP, M.R.C.V.S., Dublin.

Mr. President and Gentleman,--It affords me much pleasure to visit the progressive City of Belfast once more, to observe so many new buildings, to see so many old familiar faces, and to meet the sons of those whom I once knew so well. I feel grateful to you for having called a special meeting to hear my last paper read, and I may say it was the first paper I have ever read on veterinary medicine.

In the natural course, I ought to have read the last paper before the Veterinary Medical Association of Ireland, of which I have the honour to be a member and a vice-president. Being one of the oldest members of the profession, I had hoped at one time that I might have the privilege of discussing this burning question at the school where I graduated, but somehow an opportunity did not present itself.

Thirty years ago, glanders broke out amongst a few hundred horses belonging to the Belfast Street Tramways Co. At that time the mallein test was not in use, and I prevented the spread of the disease by the use of exclusive buckets and other means similar to those now advised for the prevention of tuberculosis.

An article of mine on a pure milk supply, and the eradication of tuberculosis appeared in a Dublin paper about three years ago, but unreasoning fashion was against me.

As practical men and men of science, I consider it to be our duty to lead public opinion and not to follow it, and always to keep an open mind where the public interest and safety are concerned.

At the last meeting some of your members invited me to read a paper on rheumatism. I intended complying with the request, but seeing that no criticisms on my previous paper had been offered in the veterinary press, and feeling that the matter was one of supreme national importance, I thought it my duty to bring the subject before you once more, but in a less restricted sense.

Ever since man was able to reason, every person must have noticed that children, as a rule, resemble their parents in many particulars, and that they often bear a striking resemblance to one or more of their grandparents: it may be in their stature, form, gait, voice, teeth, hair, skin, eyes, or in one hundred and one other characteristics. The transmissibility of inborn characters of structure and function, both of body and mind, normal and abnormal, has been proved all along the line.

Medical men say there is no doubt that a tendency to gout, rheumatism, cerebral hæmorrhage, heart disease, neurotic ailments, ataxy, asthma, hæmophilia, and obesity are capable of being transmitted.

Smith (Veterinary Physiology) says: "Of the influence of heredity in disease there is no possibility of doubt." Robinson's investigations have shown that in horses, roaring, sidebone, shivering, and a tendency to ruptured blood vessels follow the law of Mendelian inheritance.

Although the fact of heredity has been recognised in all ages, there is still some difference of opinion as to the mode of transmission. The Darwin theory of the origin of species was based on the fact that there are variations or differences between parent and offspring, and in the struggle for existence the fittest survive. It was laid down that the differences between parent and immediate offspring were very slight, and that changes, however great, were slow and gradual. Some have held that the differences between species arose suddenly and were the result of great variations, or what are known as sports.

The application of Mendelian principles to animals is

as yet limited, and can only apply to the crossing of breeds of decidedly opposite characters.

Few people will contend that performance and capacity are not transmissible. In Scotland there has been a marked improvement in the milking qualities of Ayrshire cattle, which has been attained by breeding only from the deepest milkers. "It has been possible, by proper mating, to transfer the power of yielding milk of high quality from animals possessing that power to any number of animals, or to any breed which did not possess it." The Ayrshire owe their beautiful horns to a drop of West Highland blood. It is well known that the egg-laying capacity of poultry is transmissible, the proper and regular feeding, cleanliness, comfort, freedom from dampness, draughts, etc., are, of course, powerful factors. I have known good breeders to select from a brood of chickens, by form alone, what they considered would be the best layers, and I must say they were fairly successful, but this may have been a coincidence.

Breeders are, as a rule, well informed, and many of them highly educated. They usually are supplied with abundance of statistics, and each in his own line is familiar with pedigrees and performances. They can tell which classes of animals are prepotent. The success of the practical breeder has been marvellous. The improvement he has effected in the domesticated animals has been truly wonderful. He has moulded the pigeon into all sorts of fantastic forms, and has actually been able to make it tumble in the air.

At a meeting of a Veterinary Medical Association a gentleman asked, "What is the relationship of heredity to disease?" and said, "Before attempting to make an answer to the question it was necessary to decide exactly what is meant by disease." No doubt there are cases of functional albuminuria which may be intermittent or orthostatic, and these symptoms need not prevent the adolescent from being accepted for life assurance at ordinary rates. Cases are on record where a gentleman, his son, and grandson, on reaching similar ages, expired suddenly from functional heart disease, and on post-mortem no lesions were discovered. The same type of pulse may be normal in one individual and abnormal in another. These peculiarities are, no doubt, inherited. Their existence neither hinders scientific men from considering "heredity in relation to disease" nor prevent the breeder improving his stock, and they offer no valid excuse for continuing to breed from diseased herds.

There seems little doubt that the great majority of nervous disorders have their root in some germinal defect, and are therefore in various degrees transmissible.

Perhaps one of the most fascinating and important of studies is the one appertaining to the more obscure inherited functions of the skin in relation to disease and as affecting the various internal organs.

There seems no very secure reason for believing that acquired characters are transmissible, but possibly they may in some instances be transmitted. When the body of a parent suffers from the effects of starvation, or from malnutrition, or becomes soaked with a poison or a toxin, such as alcohol, the germ cells as well as the body cells may be impaired, and consequently the offspring may suffer. The progeny of the young and immature are said to be less vigorous than the progeny of the mature, and there are grounds for believing that long-continued effects of climate may give rise to a germinal variation that may become part of the inheritance of a race. It is said that the dwellers in large cities would die out in three generations but for the importation of fresh blood from rural districts.

There are three or four recognised modes of inheritance, such as the particulate, the blended, and the inclusive, but these modes in reality seem to overlap one another, and their study may tend to lead to some con-

fusion of thought. I shall, therefore, lay before you a few well-known facts which I hope will make this matter quite clear.

It has been said that exceptional parents do not necessarily produce exceptional offspring, because of an innate tendency towards the mean. Although it has been shown that there is a tendency to return to the mean, it should be understood that this refers to the offspring of exceptional parents, and this is most definite where there is a considerable difference between the two parents.

There is another side to this question, and it is always well to look at both sides. Limiting our ancestry, say, to 500 years—15 generations—and supposing there were no linking of ancestral lines, each person now living could claim to be the descendant of 32,767 ancestors, and notwithstanding all this mixing and intermixing we still have with us the philosopher and the idiot, the genius and the imbecile, the tall and the short, the brunette and the blonde, the alcoholic and the moderate, the consumptive and the sound, the rheumatic and the agile, and "typhoid Mary."

One would naturally think that the marriage of different types of people (the usual custom) would eventually procure a perfect blend, but we know that on the whole there is no tendency to return to the mean, and therefore we must believe that there is some prevailing force or law (Mendelism) in operation tending to prevent blending of the race; otherwise, there would be a general sameness all over, and one person would be indistinguishable from another.

A number of inherited characters may remain latent or partially suppressed for one or two generations, and only develop, or re-appear, or become intensified in individuals when both parents possess similar characters, either latent or apparent. This may be the reason why individual peculiarities are maintained and not completely blended or effaced.

If two opposite types, say the tall and the short, were not to intermarry, obviously the people would soon be sharply divided into two types, the very tall, and the very short. The medium would gradually be merged in the extremes. These facts, I think, show that the general mode of inheritance is compound particulate with a tendency to variations, otherwise exceptional individuals would not be perpetuated.

I knew a gentleman of strong build and of exceptional intelligence who married a lady of slight build that suffered agony after partaking of anything containing an egg. They had a son and a daughter. The son bore a striking resemblance to the mother, but had the father's stomach. The daughter was like the father, but inherited the mother's stomach. This is, I think, a typical example of mixed particulate, but not blended inheritance.

Some people would define a hereditary disease as one which is present at birth—congenital—and they would exclude all diseases due to infection. The exact definition is unimportant so long as animals exceptionally prone to a serious disease are not used for breeding purposes.

The constitutional predisposition to some bacterial diseases is certainly hereditary, and all these diseases are not necessarily congenital. Some authorities are of opinion that rheumatism is infectious, and it is generally considered by the faculty to be due to a specific microbe—the diplococcus of Poynton and Payne. Medical men believe that some families are more prone to this affection than others.

A congenital disease inherited from the mother is not necessarily hereditary. The offspring may be affected with syphilis before birth, but infection is not inheritance.

A learned gentleman said recently, "It was because of a lack of sufficient and reliable statistics that 'genetics' (scientific breeding) could speak with so little assurance

regarding many points of heredity as it affected domestic animals. Farm stock, moreover, offered difficulties inasmuch as there were so few sharply defined characters and such a diversity of latent strains."

I have quoted the gentleman's exact words as reported, but I fail to comprehend their meaning. Every pure breed has sharply defined characters of its own, and cannot have much diversity of latent strains, otherwise no pedigree stock would breed true.

The breeder sees no difficulty in the existence of latent strains. He knows that every individual—man or animal—is possessed of some latent characters without which there could be no such thing as atavism.

The same gentleman is reported to have said that "there could be little question that breeders and others attach undue and dangerous importance to individual cases." I fail to see the danger of testing and selecting disease-resisting animals for breeding purposes. An awful responsibility rests on those in authority if they are by neglect ushering thousands of children prematurely into their graves. I do not think it is fair to charge breeders with attaching undue importance to individual cases.

For sixty years I have noticed exhibition animals gradually changing their coats, colours, and shapes, like a lady of fashion. The changes of the former, however, were more real and not quite so sudden as that of the latter.

We owe all our statistics to individual breeders, and we owe them an everlasting debt of gratitude for all they have done in the past. So far the professors of genetics have failed to give any information of the slightest value to the breeder. Up to the present they have added nothing to the volume of statistics we already possess.

No practical breeder or educated person attaches undue importance to individual cases; he only views each case as additional evidence of the universal existence of well-known laws of inheritance.

A practical breeder would not for a moment entertain the idea of acquiring knowingly a bull having an abnormal character. He knows the character is certain to appear in some of the progeny. He cannot determine how many of the offspring will inherit the character. That can only be determined approximately by long experience. The bacteriologist cannot assist him. The microscope has failed to reveal any differences between man and animals in their earliest stages of development. Life is a mystery, and function is still concealed in structure.

Invaluable work is being done in the laboratory day by day, and chemical, physical, and biological problems of extraordinary difficulty are being solved, but that does not assist us in formulating correct theories regarding "heredity in relation to disease."

A few zealous, well-meaning bacteriologists, in responsible positions, with comparatively little outside experience, took upon themselves the duty of instructing experienced and skilled physicians, as well as veterinary surgeons of great experience. Unfortunately they succeeded in biasing the minds of the young and inexperienced, and the followers of fashion, and the result has been nothing short of a calamity to the human family.

The following four paragraphs are taken from Munro's *Manual of Medicine*, University Series, third edition, 1911. It is a standard work and fairly represents the opinions of the faculty:—

"Of late years it has been fashionable to minimise the importance of inherited predisposition; and cases that seem to exemplify it have been explained on the hypothesis of a very long incubation period extending possibly over years. Such a theory, however, is not sufficient to account for the facts. No doubt the predisposition in the case of phthisis is sometimes partly attributable to the form of the chest; but even in the

case of scrofula there is an extraordinary tendency on the part of some families to suffer. Similar facts are well known in connection with the exanthemata. The seed is essential, but the soil is scarcely less important."

"As with phthisis so with tuberculosis of lymphatic glands; there may be a very marked family tendency even among those in excellent social circumstances."

"Lichen Scrofulosum.—Though the patient is seldom suffering at the time from tuberculosis of the lungs or other viscera, there is generally a family history pointing to this tendency, and not uncommonly the patient himself shows signs of scrofula."

"Nathan Raw considers that the bovine type of bacillus is the cause of tuberculosis of bones, joints, lymph glands, urinary organs, meninges, and skin, while the human type is the cause of tuberculosis of the lungs and larynx; and he urges the use of tuberculin from the bovine source for diseases caused by the human type of bacillus" and *vice versa*.

When two undoubted cases of consumption occur in near relatives of an applicant for life insurance this is an absolute bar to acceptance, even though the applicant may appear healthy.

The American investigators, Park and Crumwood, as recently reported, found that six to ten per cent. of all the deaths from tuberculosis occurring in man were caused by the bovine type of bacillus.

Notwithstanding all these unvarnished facts, now and heretofore adduced, despite the overwhelming mass of evidence produced by practising physicians (doctors make a practice of inquiring into the family history of their patients)—in face of a universal law of heredity making itself manifest wherever we go, we still find people denying, without data, the hereditary nature of one disease, and that the most common, the most serious, and most manifestly hereditary of all diseases. We all want pure milk. The children demand pure raw milk; they are perishing in large numbers for the want of it.

The best and most reliable authorities estimate 18½ as the average percentage of reactors in Ireland.

It is a curious thing how little the public mind being killed so long as it is done gradually and by a regular process. If we could ascertain the annual death rate in the United Kingdom due to the bovine type of bacilli alone, it would be incomparably more appalling than the greatest marine disaster ever heard of.

Now, let us look calmly at the question of heredity in relation to the most serious disease affecting man and animals, and consider what is being done. At agricultural shows horses are carefully examined for roaring, spavin, and other affections believed to be hereditary, and no prize is awarded to any unsound horse; but no cow or bull is tested by the veterinary surgeon for tuberculosis. The shrewd foreigner comes to our shores and pays an enhanced price for pedigree cattle, every one of which must stand the tuberculin test, and unless we take means at once to put a stop to the propagation of diseased animals at home, the consumer will, in the near future, have no choice but to give preference to foreign meat.

Dairy cattle should be tested, and the few that would react should be prepared for the butcher and carefully examined (as they are at present) at the abattoir. When a carcass looks sound, with the exception of a local lesion, the affected portion should be removed and the butcher compensated. When the lesions are not localised the whole carcass should be condemned and compensation awarded; but only in cases where the animal had been apparently sound before being slaughtered. The general practice in dairies is to allow the few affected cows to remain in contact with the many healthy for a length of time (the cows being kept in an unnatural state, getting no exercise, the life's blood being drained out of them, and often not allowed sufficient fresh air, they are in a fit state to receive any infection to which

they may be exposed), and the result is so many become affected that the country cannot afford to do justice to the respectable butcher.

There does not appear to be any danger of tuberculosis being transmitted to human beings through the medium of cooked meat; even in the centre of a large joint the temperature is reckoned to be raised to 185° F., which is ample to kill all tubercle bacilli. It may be argued that raw meat juice is sometimes given to the sick, but the nurse would not be justified in buying anything but the best, and that from a respectable butcher. Moreover, the specific bacilli are not to be found in clean muscle. They are found only in cancellous tissue or cavities. In any case, the public are well protected by our system of inspection as carried out at our abattoirs.

It seems an extraordinary thing that there is a noxious weeds Act, but no noxious animals Act. There is no law to prohibit the use for public service of diseased or inferior animals. If we continue to breed from diseased animals, the result will be disease.

The Agricultural Department is expending about £13,000 per annum in "growing trees," but so far as I am aware it is not spending one penny towards establishing disease resisting breeds of cattle required for the general production of pure raw milk, which is a necessity for the "growing" of healthy children.

I am not aware that the Department is doing anything in order to eradicate or diminish tuberculosis in poultry, except advising cleanliness and ventilation. Needless to say, the poultry and egg industry is an important one for Ireland.

There are other infectious animal diseases which do not come within the scope of this paper, and which would require the combined counsel of the wise and experienced, but they are quite insignificant when compared with tuberculosis.

Referring now to one aspect only of the most serious of all hereditary diseases transmissible to man, let us neglect for the present the great monetary loss to the nation. Thousands of children are being ushered into their graves by the consumption of impure milk, not to speak of the consequential sufferings and deformities of child and adult. People are being encouraged to marry into consumptive families, and the danger is that the young and the thoughtless may be induced to embark on a sea of lifelong trouble. The leading members of the medical profession are speaking out with no uncertain sound. Our profession has always been to the front in advocating and initiating effective measure for the eradication of animal diseases. Practical veterinary surgeons agitated for years before the Government would take steps to stamp out pleuro-pneumonia, a disease not transmissible to man. How much more is it our duty to urge the importance of taking effective measures for the eradication of a disease which is not only causing a great monetary loss to the nation, but is imperilling the lives of many human beings.

Women as a rule are shrewd in many ways. They do not like to see their children or friends marrying into consumptive families. I honestly believe if we had women in Parliament they would not allow our authorities to rest on their oars. They would not fold their arms and listen to perishing children calling for pure raw milk. The heart of Dublin Castle is sound, and most sympathetic towards every good movement.

The Veterinary Department for efficiency is second to no other similar organisation, and every official has experience and commonsense enough to know that it is wrong to breed from diseased animals, and I am sure they are not only willing to assist but to take the lead in this grand movement.

The Agricultural Department of Ireland, from its inception up to the present, has been second to no other like institution, and it is to be hoped it will lead in this

crusade against an animal scourge which, like the poor, is always with us.

The question of the eradication of tuberculosis is an urgent one. The problem to be solved is a simple one. All is plain sailing, children are perishing. Practical men must take hold of the oars and go the rescue. The sea is calm, the night is not dark. There is no danger of being swamped. You may be laughed at by a diminishing number of inexperienced followers of fashion, who do not take the trouble to observe for themselves; that is all.

Whatsoever you sow, that shall you also reap. Sow diseased cattle and you shall reap diseased cattle, and impure milk with all its dire results.

We must keep this matter before the public, and continually urge the necessity of reducing the risks of infection to a minimum, of improving hygienic conditions, and, above all, the necessity of breeding only from cattle that have stood the tuberculin test after due exposure to the risks of infection.

I know this paper is not well prepared, but surely the subject is one of sufficient importance to merit a discussion. I rather like to hear the opinions of those who differ from me. It sets one a-thinking. If there were no differences of opinion there would be no progress.

Mr. JORDAN congratulated Mr. Dunlop on his most excellent paper, and suggested that, as it contained so much that might be considered controversial the discussion should be adjourned until our next meeting, when he hoped Mr. Dunlop would again honour them with his presence.

This was proposed by Mr. J. J. Ross, seconded by Mr. James Gregg, and passed unanimously.

Mr. SMITH proposed a hearty vote of thanks to Mr. Dunlop for his kindness in coming to the North to treat the members of the Association to a paper on such an interesting subject, which was seconded by Mr. Thompson.

Mr. DUNLOP suitably replied, and there being no further business the meeting closed.

J. A. JORDAN, Hon. Sec.

Foot-and-Mouth Disease.

OUTBREAK IN THE LAKE DISTRICT.

The following was issued to the daily press (*but not to us*) on Monday:—

"Foot-and-mouth disease was reported yesterday (Sunday) to exist at Belmont, near Penrith, Cumberland. One of the veterinary inspectors of the Board was at once instructed to visit the suspected premises, which remained under strict police supervision pending his arrival. He reported this morning that he found 16 cows affected with the disease. There are 49 cattle and 92 sheep in all on the farm. The Board have given instructions for the immediate slaughter of all these animals, and have issued an order prohibiting the movement of all animals over a wide area around the affected premises.

"Local authorities throughout Great Britain have been warned that the disease has again appeared in this country."

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders † (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever	
	Outbreaks		Animals		Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Animals.	Outbreaks	Outbreaks.	Slaughtered.*
	Con-firm'd	Re-ported	Con-firm'd	Re-ported									
GR. BRITAIN.													
Week ended June 22	9		11				1	3	35	92		97	1163
Corresponding week in	1911 13		15				3	10				64	664
	1910 20		21				6	13			2	38	290
	1909 19		20				13	43			1	53	432
Total for 25 weeks, 1912	484		541				81	167	2060	4628	162	1734	22315
Corresponding period in	1911 459		572		1	18	103	271			302	1290	14050
	1910 781		941				174	479			314	688	6256
	1909 699		934				291	1134			455	869	7837

† Counties affected, animals attacked: London 2, Surrey 1.

Board of Agriculture and Fisheries, June 25, 1912.

IRELAND. Week ended June 22				...	...	...	...	...	...	Outbreaks	2	2	5	43
Corresponding Week in				1911 ...	...	...	...	...	...	2	...	...	1	1
				1910 ...	...	...	...	...	...	...	...	...	...	38
				1909 ...	...	...	...	...	...	1	2	6	6	91
Total for 25 weeks, 1912				...	2	2	...	...	...	43	256	133	1245	
Corresponding period in				1911 ...	5	6	...	...	2	3	43	240	53	911
				1910 ...	4	7	...	...	1	2	36	332	52	1277
				1909 ...	3	3	...	...	...	...	47	280	43	697

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 24, 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

PARLIAMENTARY.

FOOT-AND-MOUTH DISEASE OUTBREAK NEAR PENRITH.

In the House of Commons, on Monday, June 24.

Mr. RUNCIMAN, replying to Sir Harry Verney, said: One of the veterinary inspectors of the Board proceeded to Penrith last night, and has this morning reported by telegram that the animals are affected with typical symptoms of foot-and-mouth disease. There are 49 cattle and 92 sheep on the farm, and 16 milking cows are affected. Two cows had been recently moved on to the farm, and one cow was sold about three weeks ago. On receiving the report of suspected foot-and-mouth disease the police imposed restrictions on the movement not only of the animals on the farm itself, but also as regards those on two adjoining farms, pending further veterinary examination. They also arranged with the proprietors of the Penrith Auction Mart that no cattle or sheep from the district where the suspected outbreak of disease had been reported should be allowed to pass through their auction mart on Monday.

The Determination of Sex.

Dr. Andrew S. McNeil, of Liverpool, has sent the following account of the opinion entertained by an experienced breeder of Shire horses. He writes:—

"Three or four years ago I attended the manager of a large Shire stud farm for a serious accident. During his convalescence we often inspected the horses together, and it was on one of these occasions that he proposed the following axiom—namely, that if a stallion were put to, say, six mares in one day, the first two mares would throw colts; numbers three and four mares would throw colts probably, if the stallion were fresh, and had not been "used" for some days, but if he were aged or stale through "use," then they would probably be fillies; numbers five and six mares (especially number six), he "could gamble would throw fillies, if they threw anything" (that is, if they became pregnant at all). This man did not believe the mare had anything at all to do with deciding the sex of the foal. He believed that fillies were conceived when there were "few seeds" in the sire's sperm—for example, at the end of a day "in use." I may mention that he was a very intelligent man, and, like his father before him, had been all his life among Shire stud horses; among other notable horses, he was in charge of the Shire "Hareld" when he won the championship.

The point would appear to be easily capable of proof, at any rate; but until his ideas are proved or disproved, I think (emanating as they do from a man who has made of this subject a life study) they should not be lightly put aside. If his observations are correct, it would appear that when there are vigorous mature spermatozoa in the semen, one of these in the struggle for existence amalgamates with the ovum to the exclusion of any weaker immature ones, and so begets a male. When, however, there are only immature forms in the semen a female is produced.—*British Medical Journal*.

[About a dozen years ago, in the course of one of the perennial discussions on the subject, in, I think, the pages of *The North British Agriculturist*, where a farmer was maintaining that he was able to control sex by regulating the feeding of the sire and dam, Prof. Cossar Ewart, F.R.S., who was working then on hybridisation with his zebras, pointed out that spermatozoon and ovum has each a "life" *per se*—a period of development and a period of decadence. He suggested that a difference in the "age" of the respective elements at the time of their union might well account for several of the phenomena of generation. The conclusions of the breeder quoted above are along the same line.]

James Fraser, F.R.C.V.S.

Mr. James Fraser, an Ex-President of the Royal College of Veterinary Surgeons, died at Sheffield on June 19th from angina pectoris. He had retired from work owing to the state of his health, but will be remembered in connection with St. Albans, where he practised many years. Mr. Fraser started his professional career at Newbury, Berks. Then he went to Bromley, Kent, and from there to St. Albans. He was nominated a Vice-President in 1891, elected a member of Council in 1892, and was made President in 1899. His age was 65 years.

Mr. Fraser was a Canadian, and graduated from Edinburgh in 1869 taking the Fellowship in 1881. During the South African War he displayed his patriotism by serving the Government in Canada in the collection of horses.

On the Council Mr. Fraser played a prominent part in all of the controversial subjects which occupied attention during his 20 years of office. He was a man of a serious philosophical turn of mind, thinking things out and forming his convictions firmly. Once convinced he was not easily converted to other view. Although not aggressive in addressing the Council Mr. Fraser was a remarkably fluent speaker, and at the opening of the Royal Dick Veterinary College performed a *tour de force*, speaking without notes, never at a loss for a word, and yet producing a well ordered, logical and clearly expressed address.

Mr. Fraser was interred at Fulwood Cemetery, Sheffield, and Mr. Joseph Abson, attended as a representative of the profession over which the deceased was once President. Mr. Fraser leaves a widow and three children.

ARMY VETERINARY SERVICE.

The Annual Dinner was held at the Hotel Metropole, on Friday, June 21st. There were present:—

Major-Generals K. Pringle, C.B., D.S.O.; F. Smith, C.B., C.M.G.; H. Thomson, C.B.

Vet.-Colonel Sir F. Duck, K.C.B.

Colonels L. Blenkinsop, D.S.O.; E. H. Hazelton, C. E. Nuthall, A. E. Queripel, W. B. Walters, C.B.

Lieut.-Colonels J. Moore, J. Reilly, R. Rowe, G. Taylor. *Majors* W. O. Dawson, W. B. Edwards, A. England, E. E. Martin, C. Rose, H. T. Sawyer, W. D. Smith, A. G. Todd, G. M. Williams, F. W. Wilson.

Captains E. P. Argyle, J. A. Bosley, T. E. Burridge, G. Conder, W. J. Dale, H. E. Gibbs, P. J. Harris, A. L. Horner, H. Kirby, K. M. L. McKenzie, R. W. Mellard, H. S. Mosley, J. S. Nimmo, W. W. Neale, A. Olver, F. C. O'Rourke, W. H. Simpson, J. Steeven-son, F. W. Thomas, A. J. Thompson, E. J. Wadley, E. C. Webb, H. M. Williams.

Messrs. D'A. S. Beck, B. R. Body, T. E. Campey, G. A. Kelly, W. St. J. MacArtney, E. Nicholl, H. Stephenson.

About a Gamekeeper and a Bishop.

The gamekeeper is usually a puzzled man with many things to worry him. There was one who was in the habit of looking after parties of shots when they came for sport on his rich master's preserves. He knew the ropes tolerably well. He understood that a duke was to be addressed as "Your Grace," and a common baron—I have known some horribly common barons—as "My Lord." One day a Bishop arrived, and this proved exceedingly disconcerting. A bird rose and the prelate seemed a trifle confused. "Fire, fire, you silly old fool!" exclaimed the gamekeeper excitedly—"go on! 'It im! 'It im! Dot 'im on the nut, your Oliness!"

To quote his own words, "And then I knew I 'ad addressed him wrong, by the way he looked at me."—*Horse and Hound*.

Personal.

ANDERSON—ROWE.—At Wellington, Somerset, on June 14th, by Rev. G. W. Joyce, William Anderson, M.R.C.V.S., Pittehween, Fife, to Clara, younger daughter of W. P. Rowe.

Mr. W. F. HOUSTON, M.R.C.V.S., was one of the judges of the Light Horse Class at the Stirling Agricultural Society's Show on Friday, 14th inst.

R. J. McMORDIE, Esq., M.A., M.P., (Lord Mayor of Belfast) was the guest of the members of the North of Ireland Veterinary Medical Association at the Annual Dinner of the Royal College of Veterinary Surgeons in Dublin.

Prof. Lanfranchi, Director of the Medical Clinic of the Higher School of Veterinary Surgery of Parma, lately contracted trypanosomiasis from a dog on which he was investigating the results of infection with the *Trypanosoma brucei*. The diagnosis was confirmed by Professors Bertarelli and Castellani and by the Pasteur Institute of Paris. *Il Policlinico* says: "This is the first known case of transmission to man of the parasite which causes such ravages among cattle in South Africa."

We are pleased to be able to add that Prof. Lanfranchi is said to be on the way to recovery.—B. M. J.

Capt. W. C. B. REVILL, M.R.C.V.S., Inspector of the Board of Agriculture for the Continental traffic in decrepit horses, has been awarded the gold medal of the Royal Antwerp Society for the Prevention of Cruelty to Animals, "for his untiring efforts to improve the conditions of this trade, which have had such excellent results."

The best thanks of the whole Clydesdale world are due to Mr. ROBERT BRYDON, Seaham Harbour, for sending such an excellent representative as his Clydesdale stallion, Robin Adair, to lead the procession at the International Horse Show at Olympia.

OBITUARY.

JAMES FRASER, F.R.C.V.S., late St. Albans.

Graduated, Edin: April, 1869: Fellow, March, 1881.

J. T. POTTER CARTER, M.R.C.V.S., Malvern, Worc.

Lond: May, 1895.

Mr. E. Brassey, held an inquest at Chester Town Hall, on Monday 24th inst, concerning the death of Joseph Thos. Potter Carter, aged 39, veterinary surgeon, who resided at Malvern, and who was found dead on the bank of the River Dee, at a place known locally as Billy Gamon's Rough, on Saturday morning.

Mr. J. S. Potter Carter, deceased's brother, of Middlesborough, said he had not seen deceased for eight years, he having been mostly at sea during that time. He had heard that deceased had been drinking heavily lately.

Mr. W. J. R. Baker, of Malvern, said he had known deceased for the past seven or eight years. Deceased had had financial troubles, and made a composition to his creditors about six weeks ago of 10/- in the £. His sister had guaranteed that, and it had been paid. Deceased never showed signs of lunacy, but he was very erratic and eccentric. For the last three months he had been more or less under the influence of drink.

Dr. Harrison, police surgeon, who stated that death was due to the division of a blood vessel on the right side of the neck, added that the wound was inflicted by an "artist," the man having selected a vital spot. The wound was undoubtedly inflicted by the man himself.

Cyril Farren, a boy residing in Linenhall Street, deposed to finding the body near the water when fishing.

P.C. Price deposed that a blood-stained pocket-knife was found near the body. There was no money in deceased's pockets. On an envelope were written the words, "Bag and dressing case at station," and there was a left luggage ticket in his pocket.

The jury returned a verdict of "Suicide whilst temporarily insane.—*The Liverpool Courier*."

GOVERNMENT PUBLICATIONS.—Diseases of Animals Acts (Ireland), Report for 1911, 8d. Foot-and-Mouth Disease, Committee's Evidence, 3s. 2d.

CORRESPONDENCE.**WIND SUCKING.**

DEAR SIR,

After reading in the *The Veterinary Record* the interesting thesis delivered by Lt. Colonel J. Moore, at the Veterinary Medical Association of Ireland on "Crib-biting and Windsucking," I should deem it a great favour if you would allow me space for a few remarks on this subject.

Windsucking and Crib-biting can be defined as a psychopathological condition of the horse, characterised by a distinct physical action resulting from a mental impression associated with the early period of the animal's life. In severe cases it is invariably accompanied with digestive derangement.

It is well known to psychologists that in the human subject a complex in the adult can invariably be traced back by psycho-analysis to a mental impression attained in the days of infancy.

I am strongly of an opinion that the vice of windsucking in the adult horse is *not* acquired by "imitation" but that the seed of the mischief is sown when the animal is a foal.

Yet, it is possible the sense of hearing or seeing an affected horse windsucking, in a neurotic horse may awaken and stimulate the mental impression that it attained as a foal and thus, linking up the present with the past, the habit may be acquired.

This primary mental impression may be attained either as Mr. Patrick states by the foal hearing its mother or other horses windsucking, or the impression may be associated with the physiological act of sucking.

I think one is justified in saying the horse is naturally a neurotic animal, the balance of mind, the power of control are lacking; watch him in a carriage accident, or cast in his stall; his only thoughts are to free himself, irrespective of the pain he is enduring by his struggles. A runaway horse imagines the only danger is behind him, from which he must escape; some horses working in the ranks will become debilitated through the excitement of being in company, others will fret when leaving the ranks. I have known horses show great signs of nervousness when taken out on an open plain, the unaccustomed surroundings and the vastness have struck terror into them. We all know the foolish acrobatic display that sometimes occurs when a piece of paper is lying in the road.

Naturally some horses are more affected than others, and it is in these one must expect a psycho-pathological condition especially in horses descended from parents with a neurotic temperament.

It is this neurotic temperament—this obscure pathological condition of the mind in the parent—which, handed down to the animal's progeny, has established the theory that windsucking is hereditary. It is not the actual habit of windsucking that is hereditary—it is the mental disorder.

The illustration given by Mr. McKenny with reference to the stallion "Pliny" and his offspring is of great psychological interest.

I knew a weedy thoroughbred Waler which was a wind-sucker of the very worst type; he performed the habit on every possible occasion either in the stable or at work, a momentary halt at work was instantly followed by windsucking.

The horse had a very neurotic temperament—very nervous, never carried any condition, and suffered from indigestion—an animal that could be classified as a typical weed, and I am certain where there is a deficiency in physical development in the horse it is invariably accompanied with a deficiency of mental development.

Lately, in making observations of this affection, it is interesting to relate that in a cavalry brigade 66.6 per cent. of the windsuckers are mares. I think there is a psychopathological condition which is very closely associated with the sexual organs, and I even go further in saying that the pleasure obtained in windsucking is a form of mental masturbation.

From the above it would seem that the removal of the sexual organs has a controlling effect, but I do not wish to imply that the loss of function destroys the desire. I think mares are naturally more neurotic than geldings. The neurosis undoubtedly aggravated by the artificial life led by the animals in civilisation compared to their wild state.

In Arab entires masturbation is very common, and I have detected in Arab geldings conditions of expression and appearance very similar to the entire performing the vice, and although the physical function was lost there is every reason to believe that mental masturbation was taking place.

There is no doubt idleness and artificial existence experienced by the equine play a very important factor in the aggravation of this disease.

Troop horses before being issued to the units generally spend their lives in the open pastures, but after joining the units before a blank wall, and during their long monotonous hours the mental picture must flash across their minds of the days of freedom—especially in the neurotic subject, and it is during this imaginary picture the act of sucking as a foal associated with circumstances of delight, the primary mental impression is stimulated, the act is initiated, which giving mental pleasure becomes a habit as we know it.

I do not think indigestion is a cause of the trouble, but that windsucking is the cause of indigestion, not so much because of the air swallowed, as windsucking being a mental affection, the indigestion is a form of nervous dyspepsia.

Treatment.—All treatment allays only the symptoms, there is always a chance of recurrence. Mechanical implements prevent the air being swallowed, but this does not cure the seat of trouble.

I think the treatment adopted is one of purely hygienic principles—work, open air, and a careful diet. As the state of the body becomes healthier so will the mind.

Prof Mettam's remarks that the air is swallowed with saliva is interesting, because in India the disease is known as Hawá peena ("to drink air").—Yours truly,

H. S. MOSLEY, Capt. A.V.C.

Aldershot, June 26th.

PEPTONE POISONING.

SIR,

Referring to Mr. Chambers' interesting note in last week's *Record*, this, as far as the present writer is aware, is the first published record of the observance of toxic phenomena in the course of the immunisation of cattle against East Coast Fever by Theiler's method—a method in which one understands an emulsion of spleen and lymph glands (containing "Koch's bodies") is mixed with peptone and injected intravenously into the animal it is intended to immunise—the object of the peptone being to excite a leucocytosis.

Mr. Chambers says: "We cannot get anaphylaxis with bacterial toxin, so the injection used in the process of immunising cattle against East Coast Fever may be excluded."

As a matter of fact certain present day authorities regard the reaction which follows the inoculation of tuberculin into a tuberculous subject as being in the nature of a manifestation of super-sensitiveness (anaphylaxis) exhibited by the infected animal to the toxin in question (tuberculin)—the tissues of the animal having been sensitised to the latter in the course of the infection. The same view is also held with regard to the mallein reaction in glandered subjects, and the conjunctival reaction in typhoid—the infected animals being super-sensitive to the toxic products of the *B. mallei* (mallein) and *B. typhosus* respectively.

True, there are certain objections to the acceptance of the reactions referred to as typical manifestations of anaphylaxis, but at all events it was noticed long ago that anaphylactic phenomena occasionally followed the inoculation, after a definite interval, of a second and minute dose of diphtheria and tetano-toxin (not serum in this case be it noted) into guinea pigs—the second dose being but a fraction of the minimal lethal dose for these animals.

We hold, therefore, that Mr. Chambers' assertion that "we cannot get anaphylaxis with bacterial toxin" is incorrect, and would substitute for it the following statement by one well-known authority on the subject:—

"The substances which have been found to have the property of calling forth this condition (*i.e.* super-sensitiveness or anaphylaxis) are of various kinds, including bacteria and their toxins, animal poisons, and a great many foreign proteins, *e.g.* those of serum, milk, egg albumin, etc., and it is to be noted that they belong to the group of substances which can act as antigens. 'Probably' no body of known chemical constitution develops super-sensitiveness, and, just as tolerance, say to drugs, is to be distinguished from immunity, so accumulative action is to be distinguished from super-sensitiveness."—Yours, etc.,

"ANAPHYLACTIN."

MEDICAL MEN GIVING TESTIMONIALS TO THE UTILITY OF QUACK VETERINARY MEDICINES.

If anybody will take the trouble to peruse the advertisement columns of the canine fancy press they will without a shadow of doubt come across some containing testimonials given by medical men. Is this permissible?

I understand the medical profession has *practically* stamped out quackery within its own body, and is desirous of putting down quackery from without. Also with this latter object in view it is sending representatives, like the veterinary profession, to lay its views and to give evidence before the Committee inquiring into patent, etc., medicines.

I am firmly of opinion the Royal College of Veterinary Surgeons should communicate with the General Medical Council and lay a complaint against those members of the medical profession who do not do unto others as they would wish others to do to them.

To support my statement I enclose one or two pages of advertisements, which have now been appearing for some years.

"JUSTICE."

VETERINARY SURGEONS AND SHOWS.

Should veterinary surgeons be allowed to act at dog, cattle and horse shows where stalls for the sale of quack medicines and instruments are exposed for sale? I think decidedly not. But have the Council of the R.C.V.S. sufficient moral courage to enforce the disciplinary byelaws against those members of the profession who should act in future at shows where quack medicines, etc., are vended. *Vis unita fortior* is our motto, and why not act up to it? We have the power, why not use it against such quackery? To preach against one form of quackery and to aid and abet the worse form by acting at such shows is certainly illogical to my simple mind. Let not the profession be like a flock of silly sheep but act as a powerful bull with great courage.

"ACTION, NOT IDLE WORDS."

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 Friday alternately in Feb., May, Aug. and Nov.

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 Pietermaritzburg
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 Vety. Inspector Natal Police, Pietermaritzburg

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NORTH OF IRELAND V.M.A.

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Hon. Sec. Mr. J. S. A. Jordan, M.R.C.V.S., Belfast
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Hon. Sec. & Treas. Mr. G. Howie, M.R.C.V.S., Alford, Aberdeen
Meetings, Last Saturday in January and August

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Hon. Sec. Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon
Meetings, First Tuesday, March and September

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Meeting, Second Wednesday in Sept; Tunbridge Wells

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Hon. Treas. Mr. P. G. Bond, M.R.C.V.S., Plymouth
Meetings, Third Thursday, March, July and November

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Meetings, Second Wednesday, May, Oct. and January.

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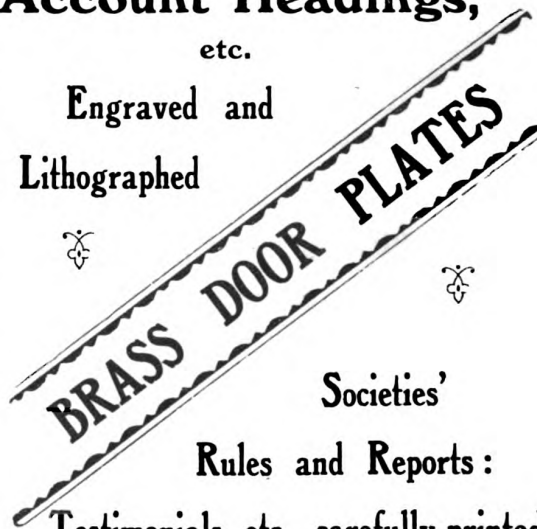
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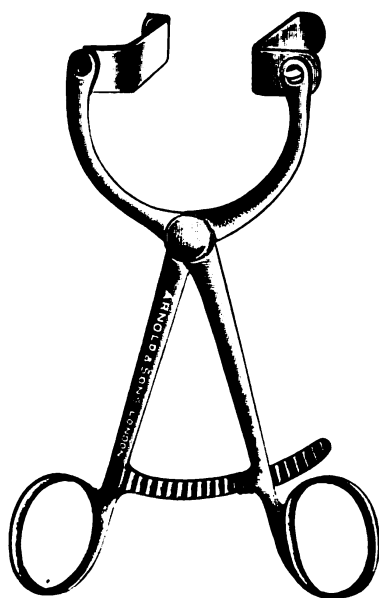
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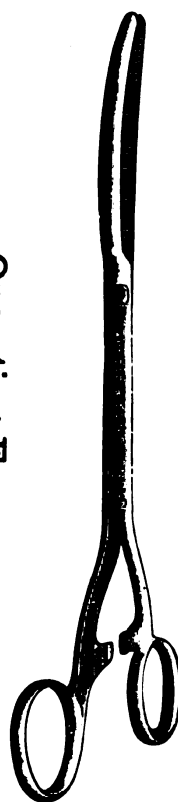


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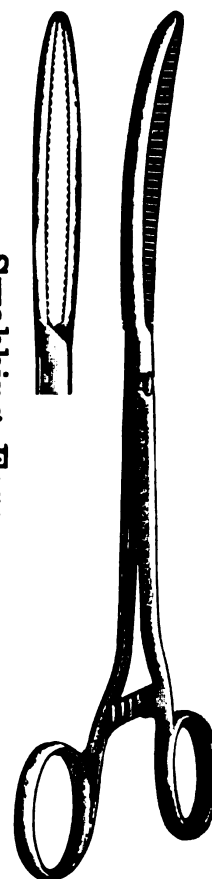


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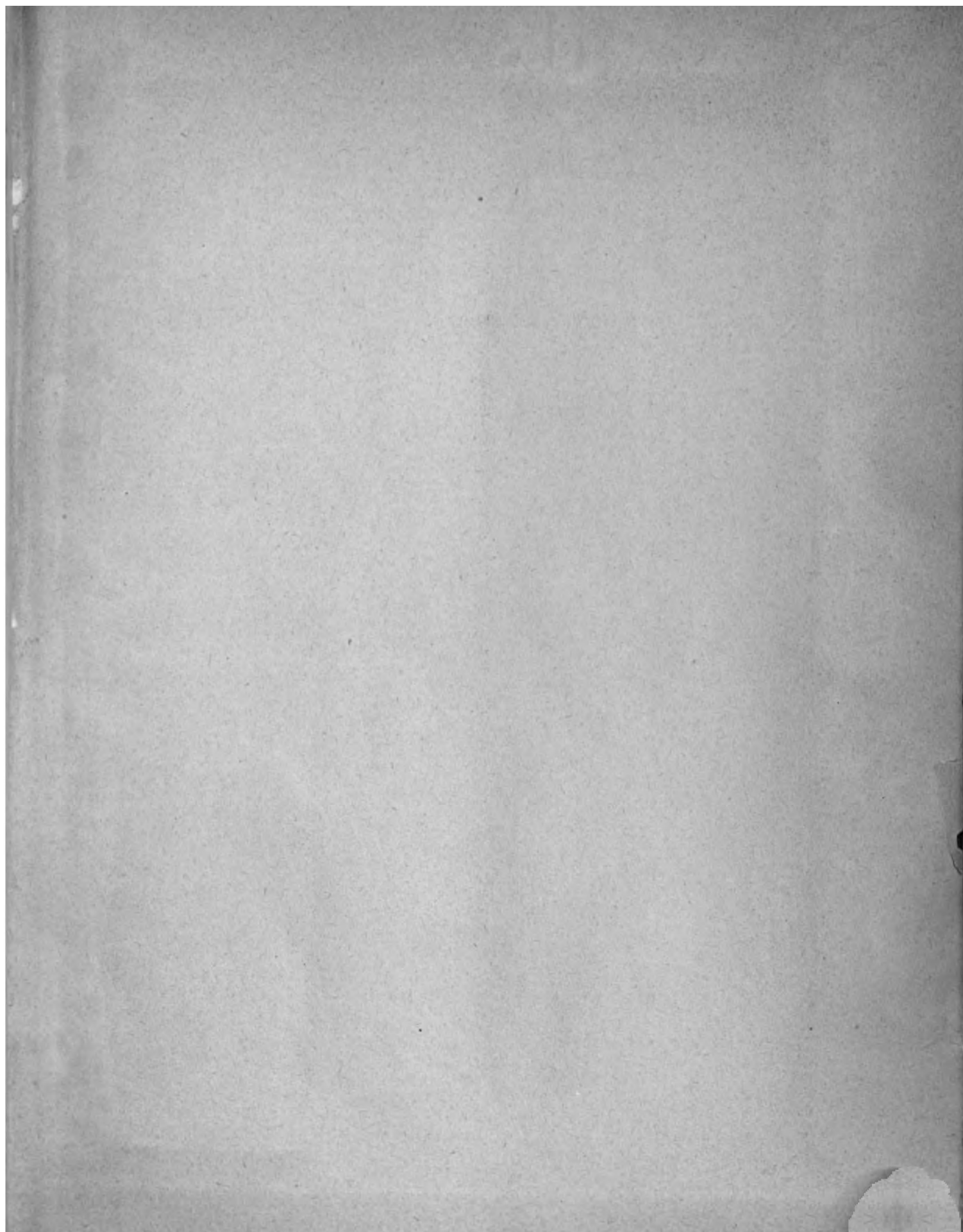
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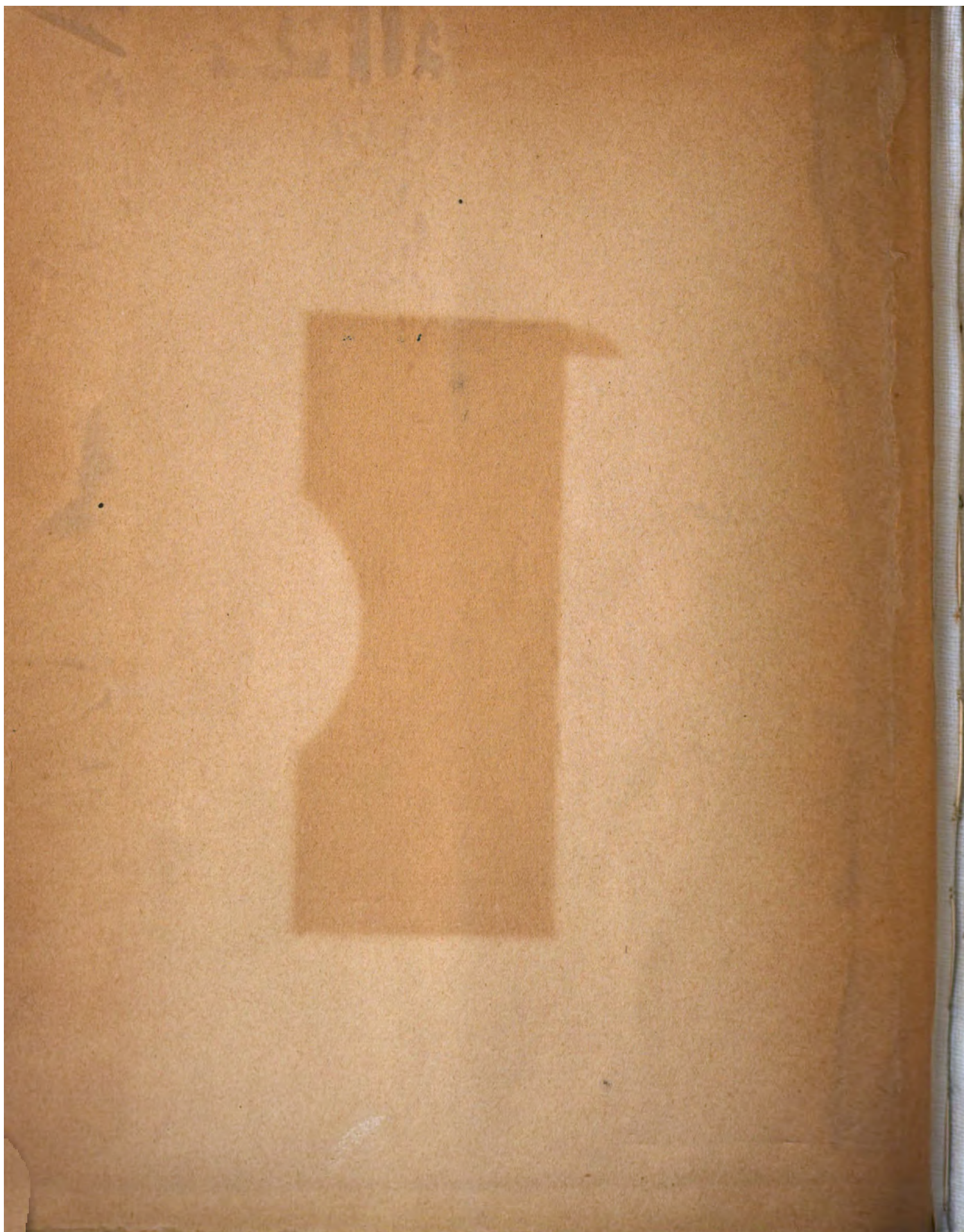
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